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AGRICULTURAL & MECHANICAL COLLEGE OF TEXAS.

ANNUAL REPORT

— OF THE —

Acting President to the Board of Directors,

ACCOMPANIED BY THE

REPORTS OF THE FACULTY AND HEADS OF THE DEPARTMENTS.

COLLEGE STATION, TEXAS, JUNE, 1883.

BRYAN, TEXAS.  
PILOT NEWS, BOOK AND JOB PRINTING HOUSE.  
1883.



## Report of the Acting President of the College.

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A. & M. COLLEGE OF TEXAS.  
College Station, Texas, June, 1883.

Hon. J. D. Thomas, President of the Board of Directors.

SIR:—In obedience to the requirements of law and in the performance of my duty as Acting President of the Agricultural and Mechanical College of Texas, I present this report as the Seventh Annual Report of the operations of this Institution. The session for 1882-'83 opened on the 2nd of October with the following Faculty present for duty:

Jno. G. James, President and Professor of Moral Philosophy and Political Economy.

James R. Cole, Prof. of English Language, History and Literature.

H. H. Dinwiddie, Prof. of Physics and Chemistry.

M. E. B. G. Gartner, Prof. Ancient and Modern Languages.

C. C. Georgeson, Prof. of Scientific and Practical Agriculture and Horticulture.

Louis L. McInnis, Prof. of Mathematics.

Franklin Van Winkle, Prof. of Engineering, Mechanics and Drawing.

C. J. Crane, (U. S. Army), Prof. of Military Science.

In accordance with the discretionary power given by the Board of Directors, the President engaged the services of Mr. Robert Smith and Mr. C. S. Miller as assistant instructors in the Departments of Mathematics and English respectively. The former is a graduate of Sam Houston Normal Institute and the latter of this College. About two hundred students matriculated early in the session and the College could not comfortably accommodate a greater number. Of these about eighty were state students. During the winter and early spring there were a few cases of measles and pneumonia some of which terminated fatally. Notwithstanding there were only four cases of pneumonia among two hundred students, and the disease was more general in almost every other part of the state, exaggerated reports of sickness at the College spread over the state and many of the students were ordered home without consulting with the

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President or College Physician. These reports have been very detrimental to the interests of the College and the students. Many have been led to believe that the College is situated in a very sickly section instead of one of the healthiest in the state, as proven by statistics; that it is on low marshy ground near a swamp in the Brazos Bottom, instead of being on a high rolling beautiful prairie ten miles from the Brazos bottom and on the highest land, probably, within one hundred and fifty miles of the gulf of Mexico. For further information on this subject I refer you to the report of Dr. Reed the College physician.

On the 1st day of April, Col. Jno. G. James having resigned the Presidency, and his resignation having been accepted, I was directed by resolution of the Board to take charge of the College and perform the duties of President from that date.

On assuming the duties of this office, I found one hundred and eight students present, five Professors. (including myself), one Acting Professor, two Assistants and one Commandant of cadets. Professor Gartner of the chair of Languages had died, and Prof. W. L. Bringham was temporarily filling the chair by appointment of the retiring President. Mr. Miller, assistant in the English Department had resigned and Mr. Walter Gillis had just assumed his duties. I was conducting the Department of English Language, History and Literature and was Book keeper and Treasurer of the College. When directed to take charge of the duties of the President, I was not relieved from the performance of the duties of my Department. You will readily understand that this double labor and responsibility were not sought by me, and were accepted only because of the expressed will of the Board. Of course one man cannot perform the full work of two men, and in judging my work, therefore, I hope you will exercise your usual kind consideration. Notwithstanding all the unfavorable surroundings, I trust you will find the condition of the College in health, morale, discipline, finances and general satisfaction of students and all interested in the institution as good and as favorable as before the retirement of the accomplished scholar and gentleman whose duties you called on me to perform. For information concerning the different departments and the work accomplished during the year, I refer you to the reports of those departments. I cannot speak too highly of the efficiency and energy of the gentlemen who have charge of the several Departments of this Institution. Highly educated and accomplished, experienced, especially in the work required of them, they have worked faithfully, laboriously and intelligently to make their respective Departments efficient and successful. It gives me much pleasure to state that they have given me a cordial support during the time I have had charge of the College as Acting President, and have co-operated with me in all my efforts in behalf of the Institution. The College has

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been full of students for two years, the farmers and mechanics from all parts of the state are sending their sons here for the valuable education so cheaply given, the departments have been built up, the patrons have been satisfied, fault-finding exists only among those who will neither patronize the institution nor inform themselves of the work being accomplished. I believe that nearly all has been done to make this a live, useful Agricultural and Mechanical College that could be done with the means furnished.

The College has lost the valuable services of Col. Jno. G. James, who, for more than three years, as President, did so much to turn the workings of the Institution in a proper direction. The knowledge and experience gained by him while President were more valuable when he severed his connection with the College than when he was first called by the Board to take charge. The work was new, untried, experimental, complex. An institution, having Agriculture and Mechanics and related sciences for its main objects, with Literature as a necessary accompaniment, military in discipline, boarding the students and taking care of the sick—State and National in responsibility, demanded no ordinary judgment and experience to guide its destinies and make it successful and useful.

During the year the College suffered a great loss by the death of Professor George Gartner of the Department of Ancient and Modern Languages. A native of Germany, he had been a teacher in Texas about twelve years, three of which were devoted to his work at this institution. He was recognized as a profound scholar, excellent teacher, and most accomplished gentleman.

Through the liberality of the Legislature in appropriating \$40,000 for the benefit of the College, it is now in the power of the Directory, to make the institution more useful in the direction intended by the laws—National and State—which laid its foundation and inaugurated industrial education in Texas. It is known to you that the College has labored under many disadvantages, the chief of which has been the want of means to carry out the objects of the institution. The public have not known of this want or have not fully appreciated it, or, we believe, the College would have received more credit for what has been accomplished and less adverse criticism. It is gratifying to know that, during the past four years, the Governor, in his published official reports, and the Directors, in their reports to the Legislature, and the Committees composed of unprejudiced, discriminating gentlemen of the 17th and 18th Legislatures, visiting in their official capacities, have all united to commend the work accomplished by the Faculty in carrying out the instructions of the Directory, and have emphatically testified that the College has been made an Agricultural and Mechanical College in fact,

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as far as the means at the disposal of the Faculty would allow.

It would be gratifying to the Faculty, if the friends of the institution and of education and of progress in our state, would visit the College during the session, when Faculty and students are at work, and observe what has been done, and is being done, in the special departments of education assigned this institution by the laws of Congress, the Constitution of Texas, and the laws enacted under the Constitution. In accordance with the instructions of the Directory, the Faculty are earnestly trying to make the Agricultural and Mechanical College of Texas what the wise and liberal lawmakers, who endowed the institution, demanded it should be—"a College where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to Agriculture and Mechanical arts, in such manner as the Legislatures of the states may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life."

We invite, we desire the closest scrutiny, and are more than willing to be criticised when the criticism is based on facts and observations and intended to benefit the College. Every honest Texan should desire to make the institution useful and perform the work assigned it by law. The Agricultural and Mechanical College of Texas is not in the way of any other institution of learning; it is working in a direction different from all others—clear cut and definite; there should be no rivalry except to show the relative value of the different kinds of education and to challenge for the lead in doing the greatest amount of good to the greatest number. It is ready and willing to promote the success of all good institutions working for laudable ends in a different direction, and especially is bound to extend good wishes to the other branches of the Texas University; that, all the parts being successful in their peculiar spheres, the whole may constitute one great University—equal to the dignity and wants of so great a state.

The financial condition of the College June 15th, 1883, as shown by the Treasurer and inventories of supplies on hand, is as follows:

LIABILITIES.

Cash overcheck at Clarke, Bryan & Howell's,.....	\$ 468 43
Due to Cadets .....	49 30
Due to O. H. Murnum.....	150 00
Total.....	\$ 667 73

ASSETS.

Due by Cadets and others.....	462 83
Due by Professors.....	237 24
Due from state appropriation of 1882 for improvements &c.....	387 15
Bookstore supplies on hand by inventory.....	1266 10



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Mess Hall supplies on hand by inventory .....	344 50
90 cords of wood and 120 gallons of oil on hand.....	197 50
Total.....	<u>\$2895 32</u>
Excess of assets.....	<u>\$2227 59</u>

Accompanying this report, and a part of it, will be found an itemized account of all warrants drawn by me as Acting President from March 29th to June 16th, 1883, amounting to \$10008.38, of which amount the sum of \$4376.03 was drawn to pay accounts made under the administration of Col. James. These accounts had accumulated in consequence of the necessity for providing board, washing, lights and fuel for all the state students from December 5th, 1882 to April 1st, 1883 without pay—the appropriation for that purpose having been exhausted and the deficiency not having been provided for by the Legislature until after the above date. Receipts from the Acting Treasurer for money received are also presented for examination. The employees on the farm and in the Mess Hall have been paid in full to the 1st of July. Prof. L. L. McInnis, Acting Treasurer since I assumed the duties of President, has shown great interest and efficiency in the performance of his duties, and has aided me very materially in the management of the finances of the College.

The distance of the College from the telegraph office, express office, bank and other business houses in Bryan, with which the College was continually in communication and must transact a great amount of business, necessitating much labor and delay in writing and passing backward and forward, made it necessary, in the judgment of the President, to provide against these delays and inconveniences in some way, and, before his resignation, he made all arrangements to establish telephone communication between the College and Bryan. He directed Professor Van Winkle of the Mechanical Department to superintend the work, which he did with his usual skill, and we are now in communication with Bryan and thence by telegraph with the world. The cost of this improvement, including a year's rent of fixtures, was \$453.

The appropriation for the use of the College made by the 18th Legislature will enable the Directors to furnish greater facilities to the Agricultural Department and to make it more useful and instrumental in supporting the institution. That the College might receive some of the benefits of this fund as soon as possible, under instructions of members of the Board, I have enclosed, with a good substantial stock fence, about 500 acres of fine land for pasturage, east of the College. This land has good grass, plenty of shade and water supply for one hundred head of cattle. The Professor of Mathematics aided me in this work, by surveying, in conjunction with one of his classes, the entire tract enclosed.

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This necessitated procuring and copying field notes, hunting corners established many years ago, and reconciling disputed boundaries. To satisfy interested parties owning adjoining land, I was compelled to procure the services of Mr. J. P. Mitchell the County Surveyor, who carefully surveyed the N. E. line of the disputed land. In consequence of the College land extending into the cultivated fields and across the fences of adjoining tracts on the North-west, I was unable to build on the boundary of the College land in this direction, and arranged to join fences until crops were gathered in the Fall, when that side of the College pasture can be extended and a new line of fencing established.

By direction of members of the Board, I advertised for bids to make 300000 brick on College ground, and the President of the Board opened and examined the bids on the 11th of May. The result was made known to the different members, and by them the President of the Directory was authorized to accept the lowest and best bid. The contract was given to Messrs. Mayo & Harrington. The work was to commence immediately and be finished by Sept. 1st in order that as much of the work, in building and repairing, as the Board might order when they met in June, might be done during the Summer and Fall months.

In order to facilitate the work to be done by the Board on their assembling, I requested the Professor of Mechanics to examine all the buildings on the College premises and to note carefully such repairs and improvements as were necessary, and to make an estimate of the costs. I also requested an inventory of all furniture belonging to the dormitories, all implements and machinery belonging to the farm, and the entire outfit of the Mess Hall or boarding department, and recommendations as to what was needed to make necessary equipments.

I appointed a committee composed of the heads of the departments of Agriculture, Mechanics and Physics to consider carefully the general wants of the College in the way of improvements, apparatus, general repairs, etc. To this committee all the other reports were submitted, and from these they presented to the Faculty the results of their labors in a report which, after discussion and modification, is submitted to your honorable body.

A committee was appointed to take into consideration the course of study, mode of instruction, degrees to be conferred, time to be allowed for study and practice, and to recommend what changes, if any, should be made. This report is submitted for your consideration.

The Boarding Department should receive the most careful attention. Good, substantial, wholesome food, well cooked, should be furnished. If the charges heretofore made for board are not sufficient to secure this, the amount should be increased.



\$13 33 1-3 per month for board, tuition, lights, fuel, washing, and furniture is so small an amount that it is found to be inadequate to the demand in furnishing such board as is desirable. This is less than was charged in 1877, 78 and 79, and it should be remembered that beef and pork cost about double the sum required then, and this is true of many other articles of food. Mr. B. Sbisá has been very efficient at the head of this department, and I recommend that he be continued as Steward and his duties be enlarged to include attention to washing, lights, and fuel, as all these are charged to account of Board. Increase of duty and work should secure to him increased pay.

Should the Agricultural Department receive the attention which the recent appropriations may justify, it may be well to appoint a superintendent of the farm and stock. He should have under his direction a trained gardener, a dairyman, and at least two farm laborers. With fifty good cows on the pastures now under fence, the dairy would be a material adjunct to the boarding department. Owing to the great interests in our state represented by the Agricultural department and the peculiar difficulties surrounding it, the most careful consideration and the most liberal assistance and encouragement should be given to make it do the good that was intended and to meet the just demands of an intelligent public. Students and parents are not averse to manual labor which is instructive—which gives such instruction as cannot be had on their farms at home. The farmer sends his son to college to obtain an education, and pays to have him taught what he could not teach him at home. The farm, orchard, garden, vineyard, stock, machinery, tools and chemical apparatus are a great agricultural laboratory in which the student by observation, by experiment, by illustration, by handling may impress upon his understanding the principles of the text book, the journal, the recitation and the lecture; thus adding the most beneficial practice to the theories of scientific education.

From the beginning of my connection with this institution, I have felt a deep interest in the success of this department of the College. I believed that, to a great extent, the success of the institution depended on the success of this department, and the success of the department depended on the means supplied, the the course adopted, and the judicious manner of conducting the operations. However thorough and successful these might be. I was satisfied that the department would be criticised by those who were ignorant of what was possible to be accomplished. Whatever labor is necessary to give the student a good agricultural education, should be required, and will be cheerfully accepted by him; whatever labor does not add to the information and intelligence of the student should not be performed. The operations of this department should not only be instructive but should be made attractive. This should not be difficult with

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such vast interests and such a wide field for illustration.

The Mechanical department has given general satisfaction to those receiving instruction and to others who have investigated the work being done. The practice required of the students is, in the main, new and novel to them, and entirely instructive, and hence, as a rule, is cheerfully performed. About as much has been accomplished in this department as could be reasonably expected with the means supplied.

The Military Department is under the management of Lieut. C. J. Crane, a graduate of a Texas College and also of the Military Academy at West Point. He is assigned to duty as Commandant of Cadets by the Secretary of War at the request of the Board of Directors. It is not generally known by the public that the General Government endowed this institution so munificently that the state is not called on to pay a dollar for salaries of the Faculty, and also furnishes a United States Army Officer, at the expense of the Government, to teach military tactics. As taught here, the Military aids in discipline begets promptness, punctuality, individuality, responsibility, manliness and honor. The duties consist in drill and guard duty. The drill will not consume more than seventy or eighty hours during the entire scholastic year, and occurs only after the Academic duties for the day are over. Yet this short time, thus spent, is worth much to the Cadet, it not only begets a becoming grace of action and promptness in movement, but the knowledge gained may be of great benefit in the future, should his country, which requires this attention to the Military Science, demand his services in her defence. The uniform is neat and cheap, consisting of cap, coat, pants and vest, of cadet gray, costing about fifteen dollars. Where the results and efficiency of this department are thoroughly understood it is properly appreciated.

The old wooden barracks in rear of the College building is unfit for use by the students and should be removed. The College cannot accommodate comfortably more than one hundred and fifty students. The Mechanical Shops are dilapidated and only temporary in their arrangements. So important a department of the institution should have a building erected for the special purpose desired, and of material that would give some permanency to the shops. Increased facilities should be furnished the department of Chemistry and Physics. I respectfully call your attention to the suggestions of the accomplished Professor of this department in his report. Better arrangements for taking care of the sick should be made. The College physician should live at the College, and have more direct management of his department, so as not only to wait on the sick when necessary, but to give his special attention to the sanitary condition of the institution.

I would recommend that the Board appoint, or authorize the

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President to appoint, a Janitor to take charge of the College premises and property, and keep them in good condition, give attention to the cisterns, the water supply, and general repair of property, such as beds, bedsteads, chairs, tables, &c. He should live on the College premises during vacation, and should give such attention to the buildings and furniture, that, at the opening of the Fall Session, everything might be in a proper condition for the reception of students. This would have its legitimate and satisfactory results in pleasing the new student with his reception and surroundings and would be conducive to health. Should the duty of attending to the washing, lights and fuel not be assigned to the Steward, the Chief Janitor might attend to this.

The duties of the President are too numerous and important for him to have his time taken up in examining wash bills, measuring wood piles, issuing oil for lamps, and purchasing the various supplies for all the departments. He should come in contact with the students and meet them in recitation and lecture room. The handling of the funds paid in by the students should be entrusted to the College Treasurer, and the President relieved of this duty. This would bring increased responsibility and work to the Treasurer and should bring increased compensation. The approving of accounts, the ordering of all purchases, the issuing of all warrants to pay the indebtedness of the College, the general correspondence, the making up of official reports, the government of the institution, the general management and supervision of all departments, one or two recitations or lectures per day, and the seeing that all duties are performed, all wants are supplied, and the College suffers for nothing, will certainly be work enough, and appropriate work, for a president, however strong, active, able, and experienced.

Notwithstanding the disasters of the past, the misrepresentations of the present, and the opposition in various directions, the College has moved quietly on, doing better work each succeeding year, and only asking for legitimate means and fair treatment; and without these, it is willing to be judged by its work—to be compared with similar institutions in other states, and invites all to come and see what is being done.

The official reports of the Agricultural and Mechanical Colleges of the Southern States, the New England States, the Northern States, of Canada, and of the most noted technological schools of the Union, are received at this institution—their methods are studied, their results noted, and we can assure the people of Texas that, in numbers of students, thoroughness of instruction, practical utility of the course of study, and the general results, we need not be afraid of comparison. These institutions receive much greater assistance and are upheld by public opinion, hence their great reputation which, doubtless, is deserved. It will require

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unwearied efforts on the part of the friends of the College to correct misrepresentations, to remove prejudice, to enlighten ignorance, to conquer selfish opposition; but unwearied efforts are being made and should continue. No one is worthy a place as an officer of the College who retains that place mainly for selfish purposes or the love of power. He should be faithful to the trusts confided to him, and perform all his work concientiously, because it is his duty, because he loves his work, as well as because he is paid for it. When he does this, his services should be recognized and his remuneration should be commensurate with his services.

I am very truly,  
Your obedient servant,  
J. R. COLE.  
Acting President.

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Treasurer's Report.

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A. & M. COLLEGE OF TEXAS, }  
College Station, Texas, June, 1883. }

Hon. J. D. Thomas, President of the Board of Directors.

DEAR SIR:—I herewith submit my report as Book-keeper and Treasurer of the Agricultural and Mechanical College of Texas. I was directed by the Board to take charge of the books of the College on the 21st of June, 1882. I performed the duties assigned me from that date until 28th of March, 1883, at which time, Col. James having resigned the presidency of the College, I was instructed by the Board of Directors to assume the duties of the president. After consulting with you, and with your consent, I requested Professor L. L. McInnis to act as Book-keeper and Treasurer, and turned the Books over to him. At that time I submitted the following report:

A. & M. COLLEGE OF TEXAS, }  
College Station, Texas, March 28th, 1883. }

Hon. J. D. Thomas, President Board of Directors.

SIR:—As Book-keeper and Treasurer of the A. & M. College of Texas from June 21st, 1882, to March 28th, 1883, I submit

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the following report of Receipts and Disbursements as verified by my books and vouchers which accompany this report:

Amount received .....	\$15837 61
Amount disbursed .....	15383 63
Balance on hand .....	453 98

Your obedient servant,

J. R. COLE,

Book-keeper and Treasurer, A. & M. College of Texas.

As a continuation of the financial report of the College, I refer to the accompanying report of Professor L. L. McInnis, Acting Treasurer from March 28th to this date. My books, papers and vouchers as well as those of Professor McInnis are presented with this report and made a part of it. As the Acting Treasurer for the last three months has had the closing up of the books for the year, I have requested him to furnish you a more detailed statement of the financial work of the year and the condition of the College at this time.

Very truly,

Your obedient servant,

J. R. COLE.

Book-keeper and Treasurer A. & M. College of Texas.

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Acting Treasurer's Report.

A. & M. COLLEGE OF TEXAS, }  
College Station, Texas, June, 1883. }

Col. J. R. Cole, Acting President.

SIR:—At the request of Hon. J. D. Thomas, President of the Board of Directors, I assumed the duties of Treasurer on April 1st, last. I herewith submit a detailed report of the operations of the Treasurer's Department since that date.

As far as I know, every legitimate debt due to, and by the



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College has been placed upon the books.

The following shows the ledger balances on this day:

**BALANCE SHEET JUNE 21ST, 1883.**

J. T. Jones.....	\$ 16 67	E. B. Jackson.....	28 80
E. E. Fitzhugh.....	50 00	C. T. Matkin.....	20 50
J. C. Ellington.....	4 50	O. H. P. Minturn.....	150 00
W. M. Hamilton.....	13 00	Profit and Loss.....	1226 49
Edwin Hawkins.....	9 35	Matriculation.....	2230 00
G. A. S. Gullett.....	13 89	Board.....	3600 32
L. Spell.....	30 00	Cash.....	468 43
H. E. Johnson.....	3 00		
F. McDaniel.....	5 00		
H. D. Garrison.....	10 00		
J. A. Gillean.....	1 00		
G. H. Gibson.....	31 50		
S. G. Spann.....	53 58		
N. A. Shaw.....	23 00		
W. H. Childress.....	25 20		
J. O. Makamson.....	16 67		
A. B. Yeager.....	2 25		
Rhodas Fisher, Jr.....	24 50		
P. Robenson.....	80 37		
I. Lawler.....	5 00		
J. E. Wilkerson.....	13 00		
H. L. Pickett.....	30 15		
J. C. Walker.....	1 20		
C. C. Georgeson.....	129 61		
G. Gartner.....	55 70		
H. H. Dinwiddie.....	51 93		
Bookstore.....	36 87		
Shops.....	175 97		
Improvements.....	2985 60		
State Appropriation (1883).....	387 15		
Farm.....	20 32		
Expense.....	3418 56		
	<hr/>		<hr/>
	\$7724 54		\$7724 54

The following is a summary of my receipts and disbursements, for the verification of which, I submit my receipt, draft and cash books.

**TREASURER'S ACCOUNT FROM APRIL 1ST TO JUNE 21ST, 1883.**

A. & M. COLLEGE OF TEXAS,

In Account with LOUIS L. MCINNIS, Acting Treasurer.

DR.	CR
To warrants of Acting Pres.	By cash received from J. R.
Cole, Nos. 176—309, inclusive, paid.....	Cole, Treasurer.....
10008 38	By receipts Nos 316—419....
	By Balance.....
10008 38	
To Balance.....	
\$ 468 43	\$10008 38

The following shows the Financial condition of the College

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as shown by the books in this office :

LIABILITIES,		ASSETS,	
1883.			
Due Cadets .....	49 30	Due by Cadets and others...	462 83
Due O. H. P. Minturn ..	150 00	Due by Professors .....	237 24
Due Clarke, Bryan & Howell		Due by State Appro. 1883 ...	387 15
(cash overdrawn).....	468 43		
Balance .....	419 49		
	<hr/> \$1087 22		<hr/> \$1087 22
Balance, excess of Assets over Liabilities.....			...\$ 419 49

The following statement shows the actual results of the business of the College fram June 21st, 1882, to June 21st, 1883, as indicated by the Fictitious Accounts :

PROFIT AND LOSS,

In Account with A. M. COLLEGE OF TEXAS.

DR.		Cr.	
To Matriculation.....	2230 00	By Bookstore.....	36 87
To Board.....	3600 32	By Shops.....	175 97
To Profit and Loss.....	1226 49	By Improvements.....	2985 60
		By Farm.....	20 32
		By Expense.....	3418 56
		Balance .....	419 49
	<hr/> \$7056 81		<hr/> \$7056 81
To Balance, net profit .....	\$ 419 49		

I herewith submit an itemized account of all President's Warrants paid by the Treasurer from June 21st, 1882, to June 21st, 1883.

WARRANTS PAID BY THE TREASURER, JUNE 21LT, 1882, TO  
JUNE 21ST, 1883.

Warrants drawn by President John G. James.

No.	1	Personal, Sam Hough .....	\$ 10 00
	2	Board, S H Striling.....	9 45
	3	Board, J N Farquhar.....	46 48
	4	Expense, Tex. Ex. Co. Diplomas.....	64 80
	5	Expense, C P Ledbetter.....	10 00
	6	Board, B Sbisaa .....	25 02
	7	Expense, H C Edrington.....	20 51
	8	Board, J S Fowlkes & Co.....	143 45
	9	Expense, H C Edrington.....	14 32
	10	Expense, Brazos Pilot.....	234 25
	11	Expense, E B Pugh .....	12 80
	12	Expense Antonio Illos Rios Farm Account.....	27 02
	13	Farm, J F McPhail.....	16 20
	14	Farm, H H Dinwiddie.....	3 40
	15	State vs. Peter Winter Henderson & Henderson.....	200 00

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16	Farm, J G Sessums.....	38 00
17	Board, J S Fowlkes & Co.....	831 20
18	Improvements, S. W. Tel. & Telephone Co.....	161 00
19	Expense, Galveston News.....	104 10
20	Expense, Houston Post.....	101 60
21	State vs. Peter Winter, C. C. Brazos Co.....	10 00
22	Improvements Peter Winter.....	11 50
23	Expense, H L Rankin.....	2 60
24	Expense, Bryan P. M.....	38 35
25	Expense, Bryan P. M.....	9 85
26	Improvements, Geo. L Porter, Sate.....	150 00
27	Farm, E. Kellner.....	41 20
28	Improvements, E. Kellner.....	39 50
29	Farm, C C Georgeson.....	27 46
30	Farm, W K Mooring.....	125 00
31	Personal, S B Magee.....	25 00
32	Expense, L Rubenstein.....	3 00
33	Farm, J E Wilkerson.....	25 00
34	Farm, Jim Chapman.....	6 00
35	Personal, J H Suber.....	200 00
36	Improvements, J S Fowlkes & Co.....	95 35
37	Board, J S Fowlkes & Co.....	868 96
38	Board, W C Boyett.....	335 10
39	Expense, Geo. W Quinn.....	5 00
40	Farm, P P Allen.....	8 30
41	Expense, Jno. G James.....	55 30
42	Farm, J A Stokley.....	10 75
43	Board, E B Pugh.....	166 23
44	Expense, E B Pugh.....	56 09
45	Board, Jno. Roehl.....	50 77
46	Improvements, J H Suber.....	25 42
47	Improvement, Jim Chapman (Telephone).....	5 10
48	Board, Maria Adams.....	48 34
49	“ Delila Humphreys.....	128 00
50	“ Adeline Hill.....	70 66
51	“ B. Sbisa.....	498 28
52	Farm, W. R. Gilbert.....	6 66
53	Personal, O. H. P. Minturn.....	100 00
54	Expense, Edrington & Howell.....	30 86
55	Farm, O. L. Tabor & Bro.....	34 50
56	Expense, Clarkesville Standard.....	10 00
57	Personal, R Williams.....	10 00
58	“ M D Stoner.....	10 00
59	“ R L McCoy.....	6 66
60	“ J H Suber.....	135 00
61	“ A B McDowell.....	6 00
62	“ John Rhea.....	6 00
63	Board, C F Miller.....	12 80
64	Farm, T P Wooten.....	10 70
65	Improvements, C C Georgeson (Farm).....	16 00
66	State vs. Peter Winter, Jno. W Robinson.....	48 95
67	Personal, C T Matkin.....	19 50
68	Expense, Bryan P. M. (Farm).....	1 70
69	Expense, P P Allen.....	1 45
70	Farm, P P Allen.....	67 33
71	Expense, Sundries.....	50 00
72	Board, John Roehl.....	57 07
73	Farm, Chas. South.....	56 00
74	Board, Adeline Hill.....	58 12
75	“ Maria Adams.....	70 12
76	“ Delila Humphreys.....	139 50
77	Expense, Edrington & Howell.....	6 70
78	“ Clark & Courts.....	40 80
79	Board, B Sbisa.....	442 80
80	Improvements, J W Doremus (Telephone).....	225 00
81	Expense, Bryan P. M.....	11 25

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82	Board, G L Porter .....	28 75
83	Expense Jno T Wyse .....	2 50
84	Bookstore, D Van Nostrand .....	288 85
85	Expense, Wilkins & Adey .....	36 00
86	Bookstore, Wilkins & Adey .....	22 86
87	Improvements, B Sbisa .....	46 22
88	Board, E B Pugh .....	77 85
89	Personal, E A Pearson .....	25 00
90	Bookstore, Bryan P. M. ....	36 12
91	Improvements, Wm Watson (trees) .....	94 90
92	Personal, S I Arrington, J K Lewis .....	55 00
93	Personal, M K White .....	15 10
94	Personal, E W Spann .....	11 00
95	Shops, Garth & Griffiths .....	23 87
96	Improvements, Garth & Griffiths .....	148 61
97	Farm, Garth & Griffiths .....	16 70
98	Board, Mrs. F Boyett .....	12 68
99	Personal, W Burkhart .....	21 00
100	Personal, J B Hendon .....	15 75
101	Bookstore, A. O. Watson .....	30 00
102	Board, Adeline Hill .....	34 50
103	“ Maria Adams .....	30 37
104	“ Delila L. Humphreys .....	74 62
105	“ Romulus Finlay .....	3 00
106	Improvements, J. G. Sessum (Telephone) .....	41 00
106½	Expense, Edrington & Howell .....	9 68
107	Farm, C. C. Georgeson .....	43 15
108	Expense, G. W. Norrell .....	61 45
109	Board, W. C. Boyett .....	267 23
110	“ J. S. Fowlkes & Co. ....	604 92
111	Personal, C. N. Bower .....	23 33
112	“ J W Holland .....	15 00
113	Expense, J G James .....	70 00
114	Farm, C C Georgeson .....	16 15
115	“ Bryan P. M. ....	6 10
116	Improvements, Edrington & Howell (farm) .....	112 78
117	Board, Jno. Rochl .....	50 77
118	Personal, W Burkhart .....	16 00
119	Improvements, J H Suber (Telephone) .....	9 00
120	“ J G Sessums .....	2 50
1	Board, F F Hooper .....	27 50
2	Farm, O L Tabor .....	16 56
3	Board, B Sbisa .....	405 23
4	Expense, W W Hanway .....	6 65
5	Farm, W W Hanway .....	18 50
6	Improvements, F Van Winkle (Telephone) .....	18 55
7	Expense, Bryan P. M. ....	3 10
8	Personal, A O Watson .....	6 00
9	Expense, Bryan P. M. ....	1 75
130	Improvements, Wiggin & Simpson .....	20 95
1	Improvements, Edrington & Howell Chem. and Phys. ....	172 00
2	Expense, L Rubenstein .....	5 44
3	Personal, D H Zachry .....	21 83
4	Farm, Bryan P. M. ....	27 34
5	Farm, Texas Express Co .....	6 50
6	Improvements, Wm Koppe .....	714 00
7	Personal, L E Cropt .....	20 00
8	Expense, Brazos Pilot .....	68 85
8½	“ Edrington & Howell .....	3 85
9	Board, Maria Adams .....	55 50
140	“ J S Fowlkes & Co. ....	66 00
1	Delilah Humphreys .....	146 25
2	Personal, G H Gibson .....	20 00
3	Board, B Sbisa .....	356 42
4	Farm, P P Allen .....	44 16
5	Board, Jno. Rochl. ....	21 45

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6	Farm, Jno. G James.....	4 05
7	Board, W. C. Boyett.....	339 84
8	Personal, F C von Rosenberg.....	25 20
9	"    J D Hefley.....	23 33
150	"    Thos. Harrison.....	23 33
1	Expense, E B Pugh.....	5 76
2	"    Jno. G James.....	70 00
2½	"    Edrington & Howell.....	6 52
3	Farm P P Allen.....	31 96
4	Expense, Jno. G James.....	60 25
5	Board, Adeline Hill.....	45 37
6	Board, Maria Adams.....	27 38
7	Board, J S Fowlks & Co.....	102 62
8	Board, J E Wilkerson.....	7 00
9	Expense, E Sessums.....	35 00
150	Personal, J C Myers.....	20 00
1	Expense, Peter Winter.....	23 00
2	Personal, B L Smith.....	13 33
3	Board, B Sbisa.....	286 01
4	Board, W C Boyett.....	269 76
5	Board, John Roehl.....	16 80
6	Improvements, J H Suber.....	3 75
7	Personal { J E Wilkerson \$41 } { J A Calvert \$30 }.....	71 00
8	Improvements, Garth & Griffiths.....	13 00
9	Expense, M Strickland & Co.....	25 75
170	Expense, Eclipse Stables.....	29 00
1	Bookstore, Edrington & Howell.....	143 00
2	Improvements, A F Parshall.....	72 90
3	Personal, W B McCormick.....	10 00
4	Shops, Webb Brothers.....	1 50
5	Personal, S L Cook.....	28 35
Total of President James'.....		\$ 13518 13

Warrants drawn by Acting President J. R. Cole.

176	Board, J S Fowlkes & Co.....	1556 91
7	Board, Adeline Hill.....	43 58
8	Board, Maria Adams.....	25 50
9	Board, Delila Humphreys.....	90 00
180	Personal, W F Woodward.....	2 00
1	Personal, W A Hassell.....	13 33
2	Board, B Sbisa.....	458 55
3	Farm, P P Allen.....	67 94
4	Expense, E Sessum.....	30 00
5	Expense, J P Radford.....	37 00
6	Expense, Bryan P. M.....	1 75
7	Expense, J R Cole.....	40
8	Board, John Roehl.....	38 32
9	Expense, W H Wilson.....	2 50
190	Board, W C Boyett.....	274 30
1	Board, Mrs. F Boyett.....	16 17
2	Expense, J S Fowlkes.....	8 51
3	Personal, J H Suber.....	32 37
4	Personal, J J Crook.....	12 30
5	Expense, J S Fowlkes & Co.....	4 25
6	Personal, J P Kennard.....	20 00
7	Farm, W H McMinn.....	12 00
8	Farm, Charles Carr.....	6 00
9	Personal, G Stoneham.....	6 50
200	Personal, Fisher C J.....	7 00
1	Board, Delilah Humphreys.....	91 00
2	Board, Maria Adams.....	29 25
3	Board, Adeline Hill.....	34 12
4	Expense, G W Norrell.....	1 75
5	Shops, G W Norrell.....	6 25



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6	Expense, G W Norrell.....	4 75
7	Farm, G W Norrell.....	55
8	Board, J S Fowlkes & Co.....	712 80
9	Farm, J S Fowlkes & Co.....	148 76
210	Expense, J S Fowlkes (Fiscal Agent).....	200 00
1	Personal, A T Patrick.....	17 00
2	Improvements, Jim Chapman.....	8 00
3	Expense, Jim Chapman.....	75
4	Board, B Sbisa.....	379 61
5	Expense, E Sessum.....	40 75
6	Board, John Roehl.....	41 90
7	Expense, J P Radford.....	30 00
8	Farm, P P Allen.....	55 32
9	Board, W C Boyett.....	285 62
220	Board, Mrs. F Boyett.....	18 75
1	Board, John Roehl.....	10 00
2	Board, J E Smith.....	31 35
3	Expense, J E Smith.....	5 31
4	Improvements, Edrington & Howell (Math. Inst.).....	99 50
5	Improvements Jacob Cole (Telephone).....	3 00
226	Expense, Brazos Pilot.....	50 00
7	Expense, F Sessum.....	2 25
8	Shop, Garth & Griffiths.....	23 64
9	Farm, Garth & Griffiths.....	3 30
230	Expense, Bryan Enterprise.....	8 50
1	Expense, J W Johnson.....	60
2	Farm W B Morse.....	3 00
3	Improvements, T P Wooten.....	20 07
4	Expense, T P Wooten.....	20 00
5	Improvements, J G Sessum (Telephone).....	3 00
6	Expense, Galveston News.....	14 98
7	Shops, Wm. Koppe.....	1 50
8	Improvements, Wm. Koppe (Chem. & Phys.).....	38 50
9	Farm, Wm. Koppe.....	3 55
240	Improvements, Wm. Koppe.....	35 80
1	Personal, W R P Thompson.....	10 00
2	Shops, B Sbisa.....	3 00
3	Improvements, J H Suber.....	4 15
4	Improvements, B Sbisa.....	4 00
5	Shops, F Van Winkle.....	6 50
6	Improvements, F Van Winkle (Telephone).....	12 50
7	Board, J. Suber.....	85 75
8	Bookstore, J R Cole.....	12 10
9	Farm, J R Cole.....	1 10
250	Expenses, Edrington & Howell.....	35 71
251	Personal, R C Neal.....	12 00
2	Expense, J R Fisk.....	20 00
3	Expense, E Sessum.....	20 00
4	Expense, J R Radford.....	31 00
5	Expense, J E Smith.....	3 50
6	Improvements, J E Smith.....	6 60
7	Farm T P Wooten.....	35 95
8	Farm, T P Wooten.....	2 40
9	Expense, G F Smedley.....	30 00
260	Farm, P P Allen.....	106 53
1	Board, Delilah Humphreys.....	119 62
2	Board, Maria Adams.....	34 50
3	Board, Adeline Hill.....	34 87
4	Improvements, J H Suber.....	12 00
5	Board, F F Hooper.....	75 78
6	Improvements, C L Kaufer.....	35 00
7	Expense, Jim Chapman (Farm).....	1 10
8	Board, W C Boyett.....	281 26
9	Board, Wm. T Boyett.....	40 05
270	Board, John Roehl.....	76 95
1	Farm, T P Wooten.....	1 37

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2	Board, J S Fowlkes & Co.....	941 42
3	Board, J S Fowlkes & Co.....	75 00
4	Expense, J S Fowlkes & Co.....	13 00
5	Board, H Kernole.....	315 97
276	Farm, W W Hanway.....	19 50
7	State Appr. '83, B Sbisa.....	2 00
8	Improvements, B Sbisa.....	5 00
9	State, App. '83, B Sbisa.....	3 70
280	Board, B Sbisa.....	391 18
1	State Appi. '83 Mitchell & Rowan.....	150 00
2	Expense, L L McInnis.....	12 00
3	State Appr.'83 J P Mitchell.....	3 50
4	Shops, G W Norrell.....	1 25
5	Shops, Wiggin & Simpson.....	1 96
6	State Appr.'83 Coffman & Scott.....	125 50
7	State Appr.'83, Mitchell & Rowan.....	12 30
8	State Appr. '83, J H Suber Jr.....	71 55
9	Improvements, J W Queen & Co (Math).....	265 03
290	Board, W C Boyett.....	138 52
1	Board, Mrs. F Boyett.....	19 50
2	Board, B Sbisa.....	427 72
3	Board, F F Hooper.....	23 80
4	Bookstore F Van Winkle.....	19 60
5	Shops, F Van Winkle.....	7 50
6	Board, H Kernole.....	59 19
7	Farm, H Kernole.....	15 65
8	Profit and Loss, F Van Winkle.....	5 88
9	Expense, C J Crane.....	11 80
300	Expense, J R Cole.....	67 00
1	Farm, P P Allen.....	67 07
2	Improvements, Wm. Koppe.....	166 11
3	Farm, Wm. Koppe.....	1 70
4	Improvements, Wm. Koppe.....	12 30
5	Board, John Roehl.....	34 65
6	Board, Delilah Humphreys.....	68 25
7	Board, Maria Adams.....	14 25
8	Board, Adeline Hill.....	22 87
9	Expense, Clarke, Bryan & Howell.....	6 51
Total of Acting President Cole's.....		\$10008 38
Aggregate of Warrants.....		\$23526 51

I herewith respectfully submit through you for the inspection of the Honorable Board of Directors all the books, vouchers, and papers belonging to my office.

I would respectfully recommend that the Board of Directors establish a fixed rule in regard to refunding money to students for absence. This has given more trouble to the Treasurer than any other matter connected with this office. These absences are for the most part temporary, and it is with difficulty that the Treasurer can find the exact date of the students leaving and returning. While the amounts are generally small the aggregate for the pay students for the past fiscal year has been \$948.38.

By directions of the Honorable Board of Directors, I drew up a voucher for the deduction made for absence of State Students (\$622.12). This amount was paid by the State.

While the board account shows a comparatively large credit

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(\$3600 32), yet if all legitimate expenses chargeable to Board which have not been charged to that account were deducted the balance would be much smaller. A considerable part of the Improvements was for the Mess-Hall; and the salary of the Steward has been paid during the past session out of the interest on the Endowment Fund.

While the Farm account shows a debit, doubtless the vegetables furnished to the Mess Hall for the month of June will more than balance this debit.

I have discharged the duties of Treasurer during the past three months, only because I was requested so to do by the Honorable Board of Directors, and have not allowed these duties to interfere in any way with the work of my Department.

I hope the condition of the books and exhibit here presented will meet the approval of the Honorable Board of Directors.

Respectfully submitted,

LOUIS L. McINNIS,

Acting Treasurer, A. & M. College of Texas.

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Report of Professor of English.

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A. & M. COLLEGE OF TEXAS, }  
College Station, Texas, June, 1883. }

Hon. J. D. Thomas, President of the Board of Directors.

DEAR SIR:—As Professor of English Language, Literature, and History in this Institution, I submit the following report:

All the students attending the College during the year have received instructions in my department. During the first term the First Class completed the subject of English Literature, the Second Class finished Hill's Rhetoric, and the Third Class completed Clark's English Grammar. These classes reviewed their work and were thoroughly drilled by written exercises and instructed by lectures, and stood a very acceptable examination at the close of the first term in February. In the second term the First Class was instructed in Elocution and Composition, the

Second Class in Universal History, and the Third Class in Stephens' History of the United States.

During the year the Third Class wrote and read essays on given subjects, and delivered one original oration each month. The Second and Third Classes were required to compose original essays on selected subjects twice a month, and to declaim every other Friday, and receive instruction in Elocution.

At the beginning of the year the Third Class was divided into six sections and the Second Class into two.

During the month of May and June I delivered in the Chapel two lectures a week to all the sections of the Third Class on the History of the United States, selecting periods with special reference to the development of our government, the history of politics, and the progress of the people and nation.

The instruction of the different classes has been as thorough as the circumstances would permit, and generally the students have availed themselves of the advantages offered and made satisfactory advancement. They have almost invariably shown great interest in the studies and instruction of the department. During the first term Mr. C. F. Miller, a graduate of our institution, assisted in the Third Class, and during the second term Mr. Walter Gillis, a graduate of the Sam Houston Normal Institute, assisted in the same class. These gentlemen showed a proper interest in their duties and performed their work conscientiously.

On the 1st of April, the President, Col. Jno. G. James, having resigned his office, I was required by the Board of Directors to assume the duties of the Presidency, and during the last three months of the term I performed the work of President and Professor of English Language, Literature, and History as well as I was able to do under all the circumstances. The Department, I think, is attractive, useful, and appreciated. The study of our own language has been growing in favor among all the Colleges and the intelligence of our land, until scholarship is not so much judged by our knowledge of dead languages or even modern languages, as by a thorough acquaintance with our own mother tongue. However scientific or accomplished in these respects a man may be, if he cannot speak and write his own language with correctness, accuracy and ease, he will not only not derive the advantages to be had from such scholarship, but will not get the credit for that learning which he does possess, since it will appear unreasonable that a man should know more of a dead language than of his own, or that he should be a very scientific man without having a knowledge of the medium by which this science is obtained. Yet the course of study in this Institution is so short, and the just prominence which necessarily is given to the leading departments of Agriculture

and Mechanics absorbs so much of that time, that, to make the work of the English department what it ought to be, even in a scientific school, it requires incessant labor on the part of the Professor, who must make up for deficiencies in time and application by the students by oral and written lectures and by practical exercises in the class room. This makes the duties of the instructor more laborious but the importance of the work and the surroundings seem to demand this extra labor. I am glad to be assured that my efforts in behalf of my department and the College have been appreciated by our former President and the students who have received my instruction, and hope they will meet the approbation of the Honorable Board of Directors.

I am, very truly, your obedient servant,

J. R. COLE.

Professor of English Language, Literature, and History.

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## Report of the Mechanical Department.

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A. & M. COLLEGE OF TEXAS, }  
College Station, Texas, June, 1883. }

Col. J. R. Cole, Acting President.

SIR:—I have the honor to submit the report of the Mechanical Department for the session of 1882-'3.

Instruction has been given to all students of the Mechanical Course through the session.

1st. In shop practice on an average of 6 hours per week.

2nd. In Mechanical Drawing on an average of 3 hours per week.

3rd. Daily recitations by the first class in Civil and Mechanical Engineering or Elements of Mechanism; and two recitations per week in Elements of Mechanism during the second term by the second class.

The regular course of free hand-drawing for the third class was as usual extended to the students of the Third class in Agriculture, from Oct. 1st to Jan. 1st.

### ATTENDANCE.

The whole number of students enrolled in attendance was 173.



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By months the attendance was as follows :

MONTH OF	1st Class.	2d Class.	3rd Class.	Total . . .
October . . . . .	10	36	101	147
November . . . . .	9	34	93	136
December . . . . .	9	31	73	113
January . . . . .	9	28	83	120
February . . . . .	9	18	52	79
March . . . . .	9	20	62	91
April . . . . .	9	18	62	89
May . . . . .	9	19	59	87
June . . . . .	9	19	59	87
Average . . . . .	9	25	72	106

SHOP WORK.

The methods of shop instructions are substantially the same as since the organization of the Department. The object of shop work viz: Instruction, has always been most prominent in planning practice in the shops; and instruction in this as in the various branches of the Department is further planned so as to make the knowledge gained complete as far as the student is carried, in order that those whose circumstances may require their withdrawal before the completion of their whole course, will be benefitted directly in proportion to the time spent in the Department. In all operations, whether with tools or machines, students are taught 1st the use and care of tools, the different kinds of work to which they are adapted, and 2nd are required to apply this instruction to a useful purpose. As soon as students have acquired proficiency in use of tools they have been encouraged to make improvements to their rooms and do other private work which might not seriously interfere with their instruction.

The students of the Third Class, divided into three sections during the first term, were carried through the regular course of joinery and manipulations with wood working tools in making joints, such as mortises and tenons, dovetails etc., and in making models of roof and bridge trusses. It is the intention to test these trusses on Commencement and announce the best construction.

The class generally have had practical experience in running the engine and boiler. Each member has made for himself a T square and pair of set squares and, when required, drawing board used in Mechanical Drawing.

The practice of both first and second class has had a narrower range than should have been because of the very limited facilities afforded advanced students in shop work.

Every member of both classes has been especially instructed in running and care of the steam engine and boiler. As many as

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possible have had instruction in wood turning and in scroll and circular sawing and more or less private work has been done by all.

The largest proportion of work coming under VALUABLE PRODUCTS has been done by the second class.

The shop work of the first class has been in filing and chipping pieces to give size—iron and brass, turning—boring and lathe and hand screw cutting. The turning tools used were products of class instruction in forging and tempering.

Each session after students have been instructed in the elementary use of tools, they have been assigned duties involving their practical application in useful constructions such as needed repairs and improvements.

These duties are and should be instructive. Our workman is a learner and should attempt no more than he can be made to correctly understand. We expect him to make mistakes; he should therefore be under the eye of an instructor to be the easier and quicker corrected. The instruction then of large classes by a single instructor must be concentrated. When the less concentrated must be simpler and less instructive. The work must also be of such a nature that the time set aside from other duties can be most profitably employed—the smallest time possible being consumed in going to and from work, in preparing for and closing up work and in receiving verbal instructions.

Many small repairs and improvements have been made by students to College property at both instance of themselves and their instructors in this and other departments, which have not been noticed in the subjoined account of useful work done by the department during the session.

In addition to these small repairs and improvements it has been my custom to have the students contribute some valuable improvement to the College, as a feature of the years work in the department.

In the session of 1880-81 the classes in practice did the millwright work of the present shops—setting up shafting, machinery and tools, making steam connections and putting the shop in complete running order. The leading feature of last session's work was the construction of a new gate front for the college—then greatly needed. The posts supporting the arch were hewn from rough oak logs and encased in Texas pine. Letters, moulding and ornaments were worked by hand and the complete structure with side panels, turned palings and steps, was made, erected and painted by students.

The distinctive job of this year was the re-construction of the old bath houses and construction of complete facilities for bathing. This was specially authorized by Board of Directors.

Though some parts were heavy and laborious all parts of the work were highly instructive and are evidence of the efficiency

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attained in elementary practice.

As the boiler feed pump is not independent of the engine a Hancock inspirator supplying 80 gallons per hour was connected to the shop cistern to feed the boiler during the time the latter is supplying the "ejector" to the baths. A 3-4 inch steam pipe, 98 feet long, incased in a non-conducting wooden box conducts the steam to a Hancock ejector placed at the large cistern of the South Barracks. The ejector at 60 lbs. boiler pressure lifts and forces the water up 20 feet and along 70 feet, through a 1 and 1-2 inch pipe, delivering 1250 gallons per hour to the tank whence it is distributed to 5 cylindrical tubs, zinc lined and appropriately trimmed and stained.

The apparatus is simple, compact and economical in first cost and maintainance, requiring no repairs or attention. Cost only 1-5 or 1-6 the price of a pump of the same service. The piping and connections are the best and most extensive practice of the kind ever undertaken by classes. The work is as well and substantially executed as if done by most skillful mechanics. Cost of material \$166 ; value of work \$117.50 ; total value of improvements \$283.50.

ACCOUNT OF WORK AND EXPENDITURES OF THE DEPARTMENT  
OCT. 1 TO JUNE 1.

Mechanical Department account with College.

DR.	
Cash paid per president voucher No. 95 for lumber.....	\$ 23 87
Cash paid per president voucher No. 130 for castings.....	20 95
Cash paid per president voucher No. 174 for machine covers.....	1 50
Cash paid per president voucher No. 205 for machine oil.....	6 25
Cash paid per president voucher No. 228 for lumber.....	23 64
Cash paid per president voucher No. 237 for hardware.....	1 50
Cash paid per president voucher No. 242 for hauling.....	3 00
Cash paid per president voucher No. 245 for paints and oils.....	6 50

Total disbursements for Mechanical Department .....	\$ 87 21
CR.	

By work done for agricultural department.....	\$ 2 87
By work done for barracks.....	45 85
By work done for hospital.....	7 95
By work done for mess hall.....	56 58
By work done for general act.....	190 84
By work done for baths .....	117 50

Total .....	\$ 421 59
Total disbursements for department.....	87 21

Balance to credit of department.....	\$ 334 38
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STOCK AND TOOLS.

DR.	
To department improvements .....	\$ 15 00
CR.	
By coal for forging tools.....	\$ 2 50
By 150 lbs iron @ 5 cts.....	7 50
By 2 dog screws broken.....	50
By 2 claw hammers broken in sets 2 and 3, @ 55 cts.....	1 10
By 1 mallet broken in set 7.....	20
By 1 oiler broken in set 7.....	30

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By 1 claw hammer handle broken in set 10.....	20
By 2 smooth plane irons broken in sets 10 and 12 @ 50 cts .....	1 00
By 1 jack plane iron broken in set 10.....	25
By 4 twist drills broken @ 25 cts.....	1 00
By 4 screw drivers missing from sets 1, 5, 7 and tool room @ 55 cts...	1 50
By 2 claw hammers missing from sets 4 and 8 @ 55 cts.....	1 10
By 1 pair dividers missing from set 1.....	35
By 2 claw hammers missing from sets 10 and 11 @ 70.....	1 40
By 1 three inch snips missing from shop.....	3 50
<b>Total damages and losses.....</b>	<b>\$ 22 40</b>
Offset by improvement.....	15 00

Actual loss of equipment.....	\$ 7 40
Actual balance due department after replacing damages and losses..	326 98

\$ 334 38

There is a considerable draft on the time and materials of the department by students and others connected with the college in items too small to charge but which in a session aggregate a considerable amount. The above accounts include under account stock and tools, the cost of all missing and disabled tools resulting from practice of the present session. The following is a list of other tools broken during last session and session before last, when the department was organized:

Broken, spoon bits No. 4, 6 and 8 @ 10 cts.....	\$ 30
“ 2 doz. brad awls.....	1 00
“ 1 oil slip.....	38
“ 1 rosewood bevel .....	32
“ 1 rasp .....	40
“ 1 compass saw.....	45
“ 1 nest compass saw.....	80
“ Saw files.....	75
“ Hack saw blade.....	1 00
Worn out, 1 set Jennings bits.....	5 75
Missed, 1 awl set pat. handle.....	1 00
“ 1 spike hammer.....	75
“ 1 brad hammer.....	30
“ 1 belt punch.....	20
“ 1 Clark's extension bit.....	1 75
<b>Total.....</b>	<b>\$ 15 15</b>

These together with tools broken and missed this session if replaced will complete the original equipment of the department.

The telephone line between the college and Bryan was constructed under the supervision of the heads of the department at the request of the president of the college. The course was staked out and instruments were set by students of the department.

#### MECHANICAL DRAWING.

The several classes have been taught the regular course of Mechanical drawing laid down in the catalogue. Constructional and Architectural drawing was pursued as usual by the third class.

In this as other branches of the Mechanical Department it has been my aim to secure good quality rather than a large quantity of work, in the belief that one subject thoroughly executed is a

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better discipline than fifty passed over incomprehensively.

The drawing of the second class has been in original constructions of rolling curves and elementary projection, and practical applications in original constructions of toothed wheels and other elements of mechanism, and drawing from sketches of whole and parts of machines in the shops.

Drawings by the first class have been original designs and finished drawings as follows:

Finished drawing of combined belt pump and heater.

Connecting rods.

Pattern makers lathes, Cylinder and connections of 11x13 horizontal engine.

Finished views and sections of Barbers ratchet brace, Barber's angular bit stock and Plans and Elevations for Frame Dwelling House.

Cutting off Saw.

Most of these are embodied in graduating theses.

RECITATIONS.

Recitations by the First Class have been from the texts laid down and on lectures upon the following subjects:

Building Material;

Masonry;

Framing;

Strength of Materials;

Bridges of stone, wood and iron;

Roads, Railroads;

Construction and operation of the steam engine with practical experiments with indicator, etc.

Both first and second classes during the second term have had two recitations per week in "Elements of Mechanism and Transmission of Power."

It has been my custom as the occasion was presented to discuss before the several classes such matters of general or local interest as pertained to this department; especially operations taking place in the department and immediate vicinity of the College.

This has been done to quicken the perception and keep alive the interest in the department as much as to impart instruction.

REMARKS.

The time devoted by students to duties in this department is according to schedule fixed by the faculty. It is made such a maximum amount as does not exclude the student from duties in other departments of the College.

It would be disirable if more time could be devoted to practice in shops and in Mechanical Drawing but this would be to



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the exclusion of other duties. The time devoted to instruction in subjects of this department is as much as in other schools of Mechanics and is much more than in many; excepting only those which devote vacation and Saturdays exclusively to shop work and Mechanical Drawing.

The time could be increased if thought desirable by keeping the Department in operation for a whole or part of summer vacation. I am not of the opinion that such a plan would be practical. The climate and circumstances of students and school advise adversely.

To extend the time to Saturdays will require the services of another instructor for in performance of present duties necessary to the instruction of 130-140 students in shop practice, Mechanical Drawing and recitations the professor and one assistant are taxed to their utmost capacity.

Many students do avail themselves of Saturdays for practice in shops and drawing and much valuable experience and instruction are thus gained.

The attendance, we have reason to believe, is larger than any Mechanical Courses or similar department in the United States. It is entirely out of proportion to the number of instructors in the department and as well out of proportion to the number of students taking the other course.

From an experience of three years with students here, I am persuaded that many make a selection of this department in preference to the Agricultural who, from talent and purposes, would be more benefitted in their avocations were they to take the Agricultural Course.

Students are permitted to make selection between the two departments when they first enter the College.

The attractions of the Mechanical Department are more apparent upon hasty inspection than those of the Agricultural and students are too young when they enter to comprehend the advantages of that course.

There is reason for believing that superior attractions and advantages of the Agricultural Course cannot be so hastily exhibited: hence, it is my belief that as long as the two departments are elective with the student when he first enters the College, the Mechanical will continue to receive this undue patronage. It has been proposed to force students into the Agricultural Course by refusing admission into the Mechanical beyond a certain number—but this would be placing a premium on the Mechanical besides the untold disadvantages of coercion of a student in taking up a study.

It is my belief that a large number of those who would be more benefitted in their pursuits in life would avail themselves of the Agricultural Course were they not obliged to make selection between the two courses before they can learn of

the merits of the Agricultural. Under all the circumstances the two courses should in these, as in other departments, be made identical for the first session or part of the first session. By so uniting them, the prejudices against an Agricultural Course could be largely removed and after a fair comparison of the two courses—having received instruction in the characteristic departments students would be more likely to make selection of that course which would be more valuable to them in their avocations of life.

This would not work detrimentally to either course, for the departments have subjects which are mutually dependent and would be mutually beneficial.

The students of the Mechanical Course should have instruction in Arboriculture and the requirements of agricultural implements and farm machinery, while farm carpentry should have a prominent place in the education of the agriculturists.

#### CONDITIONS OF THIS DEPARTMENT.

You are respectfully solicited to invite public inspection of the work and condition of the several branches of the Mechanical Department. I am highly gratified at the commendatory reports which have always gone out by those who have done so but adverse criticism made by those who have not inspected the department or ever visited the institution compels me in justice to the College and to the management of the department to state upon tangible evidence that—

1. We have as large an attendance and our students accomplish as much as, and in most instances more than, in any similar department of instruction in the United States.

2. That we have the largest number of students per instructor.

These assertions are made from the standpoint of a graduate of a leading school of Technology, who after experience in practice has made personal inspection of other leading industrial schools of the country.

The efficiency of the department can be further increased by increasing its equipment.

The manufacturing plants of the State are widely separated, and as the College has an isolated location, the students of Mechanics should here be brought in contact with a variety of first class machinery.

- 1st. There is but a single large wood turning lathe; there should be at least a dozen such—for giving a variety of instruction to every student of our large classes.

The department is also badly in need of a wood surfacer and moulding machine.

2. There should be a small foundry sufficiently equipped to illustrate the requirements of pattern making.

3. For iron work three more slide lathes, an iron planer, drill

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press, shaping machine and milling machine.

4. A substantial, well lighted and ventilated building for machine shops—large enough to accommodate the department's equipment of machinery—and capable of extension; located 150 to 200 feet away from any other building and otherwise constructed and provided against damage by fire.

The department never has been provided with a room for Mechanical Drawing. If a portion of the present buildings occupied as shops be vacated by removal of machinery the second story can be made available for this purpose by the practice of students, and as well the setting up and removal of machinery to a new building. Since the organization of this department no books have been added to the College library on subjects pertaining to this department while other departments of the College have been quite liberally represented. There should also be on file in the reading room representative journals of every manufacturing industry in which the state is interested.

The efficiency of the shop practice has been greatly promoted by the zealous and faithful service of the Foreman of the Shops, Mr. Arnold Harbers.

RECOMMENDATIONS.

The amount recommended by the faculty to be applied to the Mechanical Department out of the late legislative appropriation viz: \$4500 for Buildings and \$2800 for additional equipment—if so apportioned by the Board of Directors, I would respectfully recommend be invested as follows:

1st. For brick shop buildings—to be located 200 feet East of Main College capable of extension and according to plans and elevations herewith submitted \$4,500.

2nd. Equipment:

5 wood lathes @ \$70 .....	\$ 350 00
1 board surfacer .....	150 00
For foundry equipment consisting of materials for cupola, blower, tools, flasks &c. ....	500 00
Iron planer .....	600 00
Drill press .....	200 00
1 screw cutting slide lathe .....	400 00
Small tools, belting and supplies .....	250 00
Books of reference .....	265 00
Transportation .....	85 00
	<hr/>
	\$2800 00

Should the Honorable Board of directors apportion a larger amount to the Mechanical Department than amounts recommended by the faculty I would respectfully recommend the additions and improvements recommended above.

I would further recommend

3rd. That Art. 15. Chapter I of the Laws of the College estab-

lished by the Board of Directors be amended so as to make the Foreman of the shops under the exclusive control of the President or else under the exclusive control of the Professor of Mechanics.

4th. That a deposit of at least \$10 be required of students in this department from which charges for consumption of materials in practice of exercises and private work and breakage and losses of property be deducted at the end of session, or upon resignation.

Respectfully submitted,  
FRANKLIN VAN WINKLE,  
Prof. Mechanics, Engineering and Mechanical Drawing.

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## Department of Agriculture and Horticulture.

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A. & M. COLLEGE OF TEXAS, )  
College Station, Texas, June 1st, 1883. )  
Col. J. R. Cole, Acting President.

Sir:—I have the honor to submit the following report of the Department of Agriculture and Horticulture for transmission to the Board of Directors.

### INSTRUCTION.

Forty-two students have received instruction in this department during the past session, twenty-five of which have been members of the Third class, and seventeen of the Second class. I have met each class five days per week throughout the session. During the first term, I lectured to the third class on the History and Description of Domesticated Animals, embracing all the principal breeds of cattle, horses, sheep and swine. I aimed to make the instruction as practical in its bearings as it was possible to make it without live stock to refer to for illustration. It is a matter of regret to me that the department has owned no representatives of improved stock during the three years I have given instruction. It is about as impossible to teach practical stock-breeding without live stock as to teach carpentry without tools and shopwork. In the absence of living animals I did the next best thing, and illustrated the lectures with crayon drawings, and on these pointed out the peculiarities of some of the breeds. In this way many facts were learned in a short time about the mer-

its and demerits of the various breeds, which it would have taken the student years of experience to find out had he been left to discover them for himself, and to that extent the instruction has been practical. This study continued through the term, and at the close the class passed a satisfactory examination, not one failing to reach the standard.

During the first seven weeks of the second term, I lectured on the Origin, Classification, Physical Properties and Constituents of Soils to the same class. The student learned from this something of the nature and qualities of the principal factor in agriculture. Those constituents of the soil which enter into the composition of plants were dwelt upon, and their relative importance and abundance in various soils were pointed out.

This subject completed, the class began the study of Botany and continued it till the end of the session. Botany is one of the fundamental sciences in agriculture, and I have endeavored to give it the prominence its importance demands. The structure of plants, absorption of nourishment and mode of growth, fertilization, etc., were dwelt upon at length. Some degree of proficiency in systematic botany has also been attained. I required each student to analyze, and collect in a herbarium, at least 25 species of wild plants. Dr. Gray's School and Field Book of Botany was used as a text.

The Second class began this year's work with the lectures on soils. The subject was begun last session, but not finished; hence it was continued this year, and completed the first week in November.

Next we took up Stock-Breeding with Dr. Miles' book on that subject as our text. Treating as it does of the breeding of animals, rather than the peculiarities of breeds, the study is a very fitting continuation of the lectures the class received last year. The subject was finished at the close of the first term.

A short course of Zoology was next studied by the class during the first two months of second term, and during the remainder of the term I taught the class Horticulture. This study was placed in the spring term in order to afford instructive work in the garden, simultaneously with the recitations in the class room. But the object was defeated this spring by assigning the class to practice in surveying during the same hours they were assigned to this department, and when the surveying ended the vegetables were grown.

#### THE FARM.

I present herewith the accounts of the department from June 1st, 1882, till June 1st, 1883. The debit column includes every item of expense that could be charged against the farm. On the other hand I have credited the farm with work of all kinds that



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does not belong to the running of a farm, as the hauling of provisions for the Mess Hall, litter from the college yard, work for professors, etc., and I have also credited the farm with the keep of the campus, but in all cases only the actual cost of the work has been charged.

FINANCIAL STATEMENT FROM JUNE 1ST, '82. TO JUNE 1ST. '83.

Dr.

To wages, including salary of foreman.....	\$869 34
To board for all hands.....	325 90
To seeds for farm and garden.....	110 80
To feed for teams and hogs.....	153 12
To miscellany, repairs, etc.....	62 73
To cost of cattle on hand June 1st, '82.....	295 00
To 5 cows and 4 calves bought October 19.....	125 00

TO ASSETS PURCHASED AS FOLLOWS:

Mower and reaper.....	\$128 50	
One pony.....	25 00	
Ornamental trees.....	94 90	
Road scraper.....	96	
Saddle.....	13 20	
Halters.....	12 00	
Harness.....	6 00	
Mule bits.....	1 00	
Culverts, lumber for.....	3 75	
Apple stocks.....	7 70	
Apple scions.....	4 05	
Plow points.....	5 50	
Plow points.....	1 00	
Cast plow.....	3 50	
Double Shovel.....	3 50	
Clevises.....	60	
Axe handle.....	40	
Plow lines.....	1 05	
Sacks.....	60	313 21
		<hr/>
		2255 10

Cr.

By produce, vegetables.....	\$ 511 44
By produce, 5 bales cotton.....	216 34
By produce, pigs and pork.....	281 97
By 426½ gal. milk @ 30 cts.....	127 95
By 105½ gal. milk @ 20 cts.....	21 05
By 277½ bush. sweet potatoes @ 75 cts.....	207 99
By 96½ bush. sweet potatoes @ 60 cts.....	57 90
By 10 bush. yams @ \$1 25.....	12 50
By cotton seed and corn.....	7 75
By sale of cattle.....	554 80
By bull service.....	5 00
By work for mess hall and college, foreign to farm.....	146 56
By work on campus.....	189 24
By assets, charged against farm.....	313 21
	<hr/>
	\$2653 70
	2255 10
	<hr/>
Balance.....	\$ 398 60

In the fall of 1881 this department bought 27 head of common cattle for \$295.00. and last October I bought nine head more for

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\$125.00. These, with their increase, 44 head in all, were sold a couple of weeks after the last purchase by order of the President. I submit the account of the cattle from the time they were bought till the date of sale.

CATTLE ACCOUNT.

Dr.

To 27 head common stock cattle Oct. 1st, '81.....	\$ 295 00
To feed and care from Oct. 1st, '81 to June 1st, '82.....	161 46
To feed and care from June 1st to Nov. 21st, '82.....	32 65
To 9 head common stock (bought Oct. 19th, '82).....	125 00

Total expense.....\$ 614 11

Cr.

By 1599 $\frac{3}{4}$ gal. milk delivered to mess hall to June 1st, '82.....	\$ 479 92
By 426 $\frac{1}{2}$ gal. milk delivered from June 1st to Nov. 21st, '82.....	147 95
By milk delivered to faculty during vacation.....	21 00
By 8 head yearlings @ \$12.....	96 00
By 1 cow.....	20 00
By 1 cow.....	15 00
By 2 head, (poor cow and calf).....	11 00
By 2 cows and 2 calves @ \$15.....	60 00
By 28 head @ \$12 60.....	352 80
By total for 44 head.....	554 80

Total income.....\$1183 67  
614 11

Balance.....\$ 569 56

It has been charged, by those who ought to know better, that the farm is an expense to the institution. It will be seen from these accounts that the contrary is the case, that it is a source of revenue to the college, and not an expense.

The crops planted this year consist of cotton 20 acres, corn 15 acres, millet 8 acres, cane 8 acres, and sweet potatoes 3 acres. These crops are all in good condition and promise good returns.

THE GARDEN.

The garden has this year been more productive and better every way than ever before. The Mess Hall has been supplied with an abundance of vegetables from the earliest date in spring that fresh vegetables could be produced here. The principal kinds grown are turnips, tomatoes, potatoes, onions, lettuce, spinach, radishes, cabbage, cucumbers, squashes, peas, beans, carrots parsnips, parsley, and some others of less importance.

THE CAMPUS.

The campus has also been improved. Nearly 800 ornamental trees were planted last fall. At least 90 per cent. of all the trees planted there during the past three years are doing finely. New walks and drives have been laid out, culverts built, and some draining done. But the work is not completed yet. More

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planting, more draining and some grading will be needed before it will be put in order. I find it a much better plan to cultivate the groups of trees and shrubbery, than to excavate large holes and fill them with good soil in which to plant.

STUDENTS' WORK.

Students in this department have worked four hours a week, (from 3 to 5 p. m. Mondays and Wednesdays), at instructive work, whenever it could be furnished, and the weather would permit. The time has been too short. Nearly all farm operations, as preparing the soil, seeding and planting, must be done when the soil and weather are suitable and cannot be postponed from day to day in order to give the student a chance to assist in the work.

I feel constrained to say a few words in this report in regard to the greater popularity of the Mechanical than of the Agricultural Course, because I am aware there are those who desire to lay the blame upon the head of the department if it could be done. Such persons are either profoundly ignorant of the facts, or they purposely suppress and pervert them. It is the experience of every agricultural college in the United States, which has one or more courses of study, literary, scientific or technical, fully equal and parallel to the Agricultural Course, that these are always prejudicial to the latter. This institution is no exception in this respect. The majority of students do not come here for a technical training in agriculture or mechanics. they come for a general education, and these will always choose the course they imagine to be the pleasanter.

Moreover, this department has in the past been so beggarly provided for, financially, that it could have no attractions for students. A large tract of poor prairie land without means of improving it, does not constitute a Department of Agriculture. Nothing has ever been available for carrying on experiments of any kind. The President has repeatedly curtailed the laboring force for want of funds to pay for the work, and I have on several occasions paid a good hand out of my own pocket monthly in order to retain him when he would not have staid for the wages I was permitted to offer. I mention this only to show some of the difficulties under which the department has labored. But in spite of these the department has been successful. I respectfully invite a thorough examination of what has been done.

I cannot close this report without saying a word in favor of Mr. P. P. Allen, the foreman of the farm. He is capable and industrious, and he has worked faithfully for the best interests of the department. I commend him to the favor of the Board.

All of which is respectfully submitted,

CHARLES C. GEORGESON, M. Sc.

Professor of Agriculture and Horticulture.

## Department of Mathematics.

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A. & M. COLLEGE OF TEXAS. }  
College Station, Texas, June, 1883. }

Col. J. R. Cole, acting President.

SIR:— I herewith submit my annual report of the Department of Mathematics for the session of 1882-'83.

Instruction has been given to the first class in Leveling, Algebra, Analytical Geometry and Mechanics. This class has been necessarily pressed during the entire session, owing to the fact that they failed to complete the course of the Second class during last session. In October they studied Leveling, with practice in the field. They next took up Algebra, paying special attention to the general theory of equations. During the second term they have had Analytical Geometry, and Elementary Mechanics.

In addition to the text (Church), I have delivered to the class a course of twenty-five lectures on Analytical Geometry and its applications.

In Mechanics they have studied the application of Mathematics to investigation of doctrine of forces, energy, gravity, Hydrostatics, Hydrodynamics &c.

In addition to the text (Wood) I have given them a course of ten lectures. I would gladly have extended these but could not do so for want of time.

In all these subjects they have had frequent oral lectures and explanations, and solved many practical problems.

During the first term the class had six recitations weekly, and during the second, seven.

The total number in the class during the session was twelve.

Instruction has been given to the second class in Plane, Solid, and Spherical Geometry, Plane and Spherical Trigonometry, Mensuration, and Surveying. Geometry occupied the first term; Trigonometry, Mensuration and Surveying, the second.

During the entire session the class has had weekly exercises in demonstration of Theorems or solution of Problems. I gave the class practice in surveying twice a week for one month. In practice the class was divided into four sections, each placed in charge of one of the class, alternating, who was made responsible for the work of his section during the practice period. I visited each of the sections, giving them such instruction in their work from time to time as was necessary. The practice was in addition to their regular recitations in the department.

The willingness to perform their duties, and zeal and interest displayed entirely refute the idea that the young men of our

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state shrink from labor when necessary for their instruction. While the practice period closed at five o'clock, they often of their own accord remained with me in the field until after sunset. As a part of the practice of this class, I, with their assistance, surveyed all of the college tract east of the Railroad. I respectfully invite the attention to the plats drawn by this class, which would do credit to more experienced hands.

It is but just for me to give particular commendation to this class, for it is one of the best that I have instructed during my six years connection with the college.

I have offered to this class a gold medal for the best paper on a special examination including all the subjects in Mathematics which they have studied. The class numbered during the session fifty-five members and has been divided into two sections. Instruction has been given to the third class in Arithmetic and Algebra excluding the general theory of equations.

One section of this class, composed of students poorly prepared, have spent the entire session on Arithmetic.

The class has numbered during the session one hundred and fifty-six members; during the first term it was divided into six sections, and during the second, into five.

Mr. R. F. Smith was appointed assistant in Mathematics, in accordance with the resolution of the Honorable Board of Directors. He has given instruction to the third class; a portion of the class during the first term, and the entire class during the second.

It gives me pleasure to commend his fidelity and success in teaching and his conscientious discharge of his duties.

The progress of all the classes has been satisfactory, the department, excellent.

In the department of Mathematics, we especially recognize the fact, that our students come to us with a lack of thorough and systematic drill in the elementary branches.

It is hoped that an improved system of education in the common schools will soon be inaugurated, so that students may come here better prepared to enter upon a collegiate course.

As previously mentioned, I have made a survey of the college tract east of the railroad, from the field notes on file in the office of the county clerk of Brazos county, with the following result:

The line is run to within twenty varas of the railroad. Total area of the tract 757 acres; area enclosed in college campus 161 acres; area of pasture south of college 55 acres; area of land in front west of college enclosure (about) 80 acres; area of land east of college enclosure (about) 461 acres. The last two have not been accurately calculated at the time of writing this report.

The Department needs very much, additional instruments, as the number now owned is not enough to give the students sufficient practice. I would respectfully ask that the Honorable



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Board of Directors, authorize the purchase of the following:

Two Levels with accompaniments complete. Three Transits with accompaniments complete. Three Compasses with accompaniments complete. One plane table. One Solar Compass.

The cost of these instruments will be about \$1000. I have only asked for such as are NECESSARY to give thorough instruction in this useful branch of Mathematics.

Respectfully submitted,

LOUIS L. McINNIS,

Professor of Mathematics.

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Report of Professor of Ancient and Modern Languages.

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A. & M. COLLEGE OF TEXAS, }  
College Station, Texas, June, 1883. }

Col. J. R. Cole, acting President.

SIR: I have the honor to submit the following report of the Department of Ancient and Modern Languages, of which I have had charge since the first of last March. I have upon my rolls the names of forty students who have recited to me in this department, in which the German, Spanish, and Latin languages have been taught. Of these, fourteen have studied German; two Spanish; and twenty-four Latin.

The senior class in German have completed, since coming under my instruction, Hodge's Course of Scientific German Essays, and Schiller's William Tell. They have also translated into German a portion of Shakspeare's King Lear. I have just finished the delivery, in German, of a course of lectures on German Literature, to this class.

The junior class in German have completed, during the session, the following text-books: Stahl's Versions and "Das Tagebuch eines armen Frauleins."

The third class in German have studied and reviewed Eichhorn's Grammar, and have had one lesson a week in Adler's Progressive German Reader.

The class in Spanish have studied and reviewed De Tornos' Spanish Method, and have read a portion of Morales' Spanish Reader.

The junior class in Latin have been instructed in the grammar and in syntax, and have read and reviewed Cæsar.

The third class in Latin have been drilled in the grammar and

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in translations. They are prepared to begin a regular course of reading.

Students in all the classes have been constantly drilled in such exercises as, in my judgment, would best contribute to a rapid and thorough acquisition of the languages. In the Modern Languages I have practiced them daily in conversation, dictation, &c.

It gives me pleasure to express my entire satisfaction with the progress made by the various classes in this department, and to commend the industry and devotion of the students who have received instruction at my hands. I am, sir, with profound respect,

Your obedient servant,  
W. L. BRINGHURST.

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Report of the Department of Chemistry and Physics.

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A. & M. COLLEGE OF TEXAS, }  
College Station, Texas, June, 1883. }

Col. J. R. Cole, acting President.

Sir: At the beginning of the session of 1882-3 the subject of Physics was added to the studies of the third class. This placed every student of the College in this department with the exception of a dozen or so in the Agricultural course—third class.

Having no assistant I could not devote as much time as was desirable to my class. In fact the Faculty found it impossible to arrange the schedule so as to admit of more than from two to three recitations a week for any of the classes in this department. In consequence of this and of the extraordinary interruptions of last winter the second class has not completed the course prescribed for it, but will do so without serious difficulty next year. The first class has had ample time for its work. The third class has profited greatly by the elementary course of Physics which they have taken, and I am highly gratified by the deep interest and proficiency displayed by these young students. Very many of the members of this class already are more familiar with the principles underlying mechanical constructions than many fairly educated workmen are.

I shall expect therefore to continue the course of elementary Physics in the third class, though it will be impossible for me to give as much time to it in the future as has been given this ses-

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sion. In fact it would have been impossible for me to have given this class such advantages as its members have had but for the fact that the only two students who were in the class in practical chemistry resigned early in the session and this left me an additional two hours daily for other classes.

As my department really includes two and gives instruction to nearly every student in the College, it will be readily seen how much I need assistance. I have never asked for an assistant because I have recognized the extreme difficulty of obtaining an efficient one for much less than the amount now paid to full professors. This arises from the fact that our ordinary College graduates in the South have generally had no training in scientific work. I respectfully urge, however, that if one of our own graduates can be obtained, he may be employed to assist in this department at such a salary as the College can afford, special inducements being offered by the facilities here afforded of pursuing post-graduate special studies. I do not anticipate any radical changes in the course of study and work of this department for the next year, but I do expect a great increase in the efficiency of instruction in that course if the Directors of the College shall grant the appropriations for supplying much needed improvements in our laboratories. I present herewith a list of these with approximate cost. The greater portion of the appropriation asked is for the Chemical Department and is intended to add to the value of our Agricultural course. With the means asked for the Chemical laboratory can be fitted up for a most attractive course of practical study and investigations, a course which is absolutely essential to the development of our agricultural work. With the small additional expenditure asked, our laboratories, for purposes of thorough training, will be equal to those of any institution in the South.

In the first place more room is demanded. I therefore respectfully ask that the room now used by the Calliopian Society be added to the chemical laboratory, another hall being fitted up for the society. This room will be fitted with working desks for the accommodation of twenty students. It is designed to open communication between it and the present laboratory by means of a short stairway, this latter room being used hereafter for a furnace room and for organic analysis. I ask also that the room adjoining the present physical laboratory be connected with it by a broad doorway and be used as a special apparatus room, the old physical room being fitted with seats to accommodate the large classes which otherwise cannot pursue the study of physics at all. The small dark room on the right of the front entrance of the main building is needed, to be used as a storage room for chemicals and materials. If these requests be granted I will be enabled to fit up laboratories nearly as useful and convenient as a special building costing \$10,000 would be,

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and at a comparatively trifling cost.

The list of improvements needed in my department which I append has been considered with the utmost care. Nothing merely ornamental or in the nature of a scientific toy is included in it. Everything is for use in actual laboratory work. It will not therefore admit of the least cutting down without injury to the contemplated increased efficiency of my department. The estimates being made up from catalogue prices may vary somewhat from actual prices that will be charged, but these slight discrepancies will compensate in such a way as to leave the sum total about as estimated.

Altering laboratories, tables, shelves, &c.....	\$250.00
10 Double laboratory desks complete.....	350.00
1 Distilling apparatus.....	150.00
1 Saccharometer.....	182.00
1 Goniometer.....	125.00
1 Sprengel's pump.....	45.00
1 Photographic outfit.....	32.00
1 Specific gravity balance.....	20.00
Tank, sinks, pump and draught chambers.....	85.00
1 Student's balance.....	30.00
Projecting lantern and accessories.....	200.00
1 Micro-spectroscope.....	40.00
Miscellaneous small apparatus.....	250.00
Reference books.....	66 00
Chemicals.....	75.00
Freight and insurance.....	100 00
Total.....	\$2000.00

Although the above represents nearly the true needs of our laboratories in important items, it is desirable that the appropriation should be made simply for the Chemical and Physical Department, since various circumstances may make slight departures from the above in the actual purchase of the apparatus.

Of course there will be some return from this expenditure in the fees which must be charged students for the chemicals actually used in their work.

Very respectfully, &c.,

H. H. DINWIDDIE.

Professor of Chemistry and Physics.

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Department of Military Science.

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A. & M. COLLEGE OF TEXAS, }  
College Station, Texas, June, 1883. }

Col. J. R. Cole, acting President.

SIR: I have the honor to submit the following annual report of the Department of Military Science and Tactics.

On the 3rd of October the Battalion was organized into four

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companies. On the 10th of April the Battalion was consolidated into three companies. This consolidation was made necessary by the diminished strength of the corps, and this diminution was caused by many cadets leaving on account of the unexpected and unusual amount of sickness here last winter and early spring. The sickness was measles, several cases of pneumonia, besides the colds, coughs and fevers that are caused by extreme cold.

Measles was brought here by a cadet who entered the College after Christmas and who had the first case. Pneumonia as is well known was general throughout the Union and spared no rank of society, but it is firmly believed that many severe attacks of colds and coughs, and at least one death from pneumonia would have been prevented by the use of warmer clothing and a more judicious heating and ventilation of the rooms of cadets during the coldest spells. These causes originated with the cadets or their parents and can not justly be charged against the College.

As Commandant of cadets the undersigned was most intimately connected with the cadets during the above mentioned season of discouragement, and it is his belief that the necessary and proper medical treatment was furnished. But at different times there was a need of nurses. Cadets do this sort of work willingly and to the best of their ability, but it is impossible for them to keep up with their academic duties at the same time.

The same repairs about the buildings that were recommended last June, are still needed, more than ever.

A casual glance through the halls and rooms will be sufficient to show that the above recommendation was reasonable, and that now some action is imperative. Rooms are now fitted up for cadet's bath rooms, but if the water from the cisterns now in use should be applied to these bath arrangements, a water famine would follow.

The discipline of the corps has been as good as could be expected, and compares favorably with that of former years.

The Regulations, the adoption of a code of which was recommended last June, are now in force, and have been found to answer every question except that the duties, powers and responsibilities of the Professor of Military Science and Tactics are not defined. This of course was an oversight.

It is now required by the Regulations that the blouse for winter wear shall be heavily lined. This will necessarily increase by a dollar or two the cost of the blouse, but a cause of much sickness will be removed.

As regards the drills. During the session the corps has been well instructed in the school of the soldier, school of the company, and school of the battalion.

The first class and part of the second class have been instructed



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in the "Manual of the piece, dismounted," and both classes have received instruction in target practice.

Sentinels have been kept posted in the halls of the buildings during meals and during study hours at night until just before taps, for the purpose of preventing disorder.

The flag which was won by the battalion years ago is now badly worn.

In order that the College should be benefited by the military feature here, and that the restraints of discipline may not become too irksome to the cadets, the proper esprit du corps is necessary.

But the soldier or cadet who has no uniform, can not be expected to feel any pride in the corps to which he belongs. And having no such pride in being a cadet, small attention to laws and regulations naturally follows. This is especially true with us, because of the isolated location of the College, thus necessitating the use of a certain amount of military disciplin.

This discipline, as before explained, depends on drills, military ceremonies, uniform, flag, and strict regulations as strictly carried out.

It is believed that the Department of Military Science and Tactics does not interfere with the operations of any other Department of the College. On the other hand, by its aid the complicated machinery of the College is made to run more smoothly.

This is as it should be, and still it meets the requirements of the United States statute of July 2nd, 1862, which demands that "Military Tactics" shall be taught. And judging from the situation of the general government at the time of the passage of said Act, one naturally infers that the Union desired soldiers quite strongly. And to her desire for embryo soldiers was due at least part of the annual endowment furnished each A. & M. college besides the material for the Department of Military Science and Tactics and an Instructor in said Department.

The undersigned knows of no other way of getting a flag than that it should be paid for by the college.

If it is desired to furnish cadets with wash stands, beds, mattresses, chairs, lamps, pillows, buckets and mirrors, the supply of some of these articles should be increased.

There are on hand 130 single beds, 26 double beds, 174 mattresses, 114 chairs, 15 mirrors, 66 tables, 70 pillows, 25 buckets, 62 wash stands, 37 wardrobes and about 15 lamps.

A number of the beds are in need of repairs. All of the other articles named are serviceable.

Each room occupied by a cadet should contain a wardrobe or some arrangement for hanging up extra clothing, for while attending to most of his duties a cadet is required to wear his uniform, but on some occasions citizens clothing must be worn.

The college buildings and surroundings have been kept in

much better order than they were kept last year.

This is due to the fact, that one of the janitors is not a cadet, consequently has more time for his duties, and that the cadet janitors have done their duty better than was done last year. However there is room for much improvement. It would be better to have no cadet janitors, except one in charge of the lamps and mail, but have one good, responsible man for head janitor and two assistants.

Very respectfully your obedient servant,

C. J. CRANE,  
1st Lieutenant 24th Infantry.

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### Surgeon's Report.

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A. & M. COLLEGE OF TEXAS, )  
College Station, Texas, June, 1883. }

Col. J. R. Cole, acting President.

SIR:—I beg leave to submit to you my annual report as Surgeon of said Institution, to which office I was appointed, Oct. 1st, 1882.

In submitting this report I shall enter into details, that would under other circumstances seem, and indeed would be needless. But in view of the fact that there were seven deaths during the past session, and that many false reports were circulated by ignorant and malicious persons about the management of affairs at the College, and that such reports had the effect of causing many parents to withdraw their sons from the institution (nearly half of the corps having gone home during the first two weeks in February). I deem it not only a privilege, but a duty, to the Board of Directors, to the public, and to myself to be very explicit.

It is due to the Board of Directors that the public should know that they have not retained in position as Surgeon a man who was unfit for the responsible duties that devolved upon him: It is due to the public that they may have the impression removed from their minds that the College is a sickly locality, or that there had been criminal negligence in the management of the sick; and it is due to myself, that my reputation as a physician may not suffer.

That there was a great deal of sickness and a large number

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of deaths (compared with former years) at the College during the past winter, is true. What then was the cause of so much sickness, and why so many fatal cases?

The accommodations were doubtless as good for taking care of students as they had been in former years. There was no special local cause to produce disease. No infectious or contagious disease except measles, which was of a very mild type, and from which not a single student died, and the sick were as well nursed and treated as they could have been anywhere. What then was the cause of so many deaths?

They were evidently not due to any local cause; as it is well known that pneumonia prevailed to an alarming extent in many sections of State and of the whole country. We had an unusually severe winter, and every fatal case could be traced to unnecessary exposure. Perhaps with one exception, every cadet who died, was unprovided with an overcoat. Bronchitis prevailed among the cadets, almost as an epidemic, and this I confidently assert was produced by unnecessary exposure, and the grossest imprudence. The rooms being heated with stoves were either kept too hot, or too cold, and the sudden change from a warm room into an extremely cold atmosphere or vice versa, was almost certainly followed by sickness. It is very difficult to remedy this evil, as it is almost impossible to impress upon students the necessity of using proper precaution. It might be remedied, to some extent at least if the rooms could be heated by steam, and the temperature properly regulated.

Many cases of sickness could be traced to imprudence in diet, and it is a matter of the utmost importance that food should be of good quality and properly prepared, and that students should be restrained as far as possible from eating too much. Indiscretion in diet is not confined to the quantity or quality of food eaten at the mess hall; but to the pernicious habit of eating various indigestible articles between meals.

A neglect of proper cleanliness is another source of sickness, and I beg leave to suggest that suitable arrangements for bathing be provided, and that students be required to bathe frequently.

I regret to be compelled to notice a disposition on the part of some of the cadets to feign sickness in order to escape unpleasant duties, such as declamation, drill and agricultural and mechanical practice. It is well known to those who have experience in army practice, that malingerers have deceived the most skillful surgeons; as the physician must rely on the truthfulness of his patient, for many symptoms to enable him to arrive at a correct diagnosis. An appeal to the honor of students is about the only remedy that I can suggest for the correction of this evil.

I respectfully suggest that the present arrangement for giving

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medical attention to cadets is unsatisfactory. The surgeon is paid a very meagre sum (\$200. per session) by the State, besides such fees as he can collect from students, which amounts to very little. It would be better to employ a physician on a specified salary and require him to reside at the college and act as general health officer. A proper hospital building should be provided for the care of the sick and suitable furniture, beds &c, supplied. As the cost of medicines is a considerable item (and the physician should be provided with an ample supply, regardless of cost, if he is expected to treat cases, successfully) allowance should be made out of the college funds for such as are required.

I have said that there were seven deaths at the college during the past session. They all occurred between the 25th of Nov. and the 16th of Feby. and were all (with one exception) due to the same cause, viz double pneumonia. Only four of this number came under my treatment viz, J. K. Lewis, S. J. Arrington, Louis Machmehl and James Calvert. The remainder consisting of John Wilkerson (Hospital Steward) and his wife, and Prof. Gartner were treated by Dr. De Port Smythe, (who was formerly Surgeon to the college) assisted by Dr. Webb. I was assisted in the treatment of my cases by Drs. Cavitt, Johnson, Smythe, and Hall of Bryan, Dr. Matkin, of Hearne and Dr. Britt of Franklin. We had no regular Hospital building, but used the house now occupied by Prof. Bringhurst, until the measles broke out, when we moved to the mess-hall, and occupied a portion of the third stoop, where we now have the hospital.

Miss Stead who was acting as hospital stewardess at the beginning of the session, was dismissed on account of inability to perform the duties required of her, and Mr. John Wilkerson was appointed Steward. He was very efficient, but only acted about a month when he was taken sick. We afterwards obtained the services of Mr. Radford who is now acting as steward. He has been very faithful in the performance of his duties and, I take pleasure in commending him to the Board for permanent appointment.

Respectfully submitted,

J. D. READ, M. D.  
Surgeon "A. & M. C."

## Report on Texas Grasses.

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A. & M. COLLEGE OF TEXAS,  
College Station, Texas, June—, 1883. }

Col. J. R. Cole, acting President.

For a year past, in connection with my other botanical work, I have given special attention to the grasses. In the study of this botanical order, I have been receiving valuable assistance and encouragement from others. Should I continue in the work here, I have reason to think I could make a good assortment of all the species of grass known to be in the state; as I have the promise of specimens from others, besides my own future collections. Through the kindness of Mr. Reverchon and of Dr. Havard, U. S. A., (two of the leading botanists of the state, whose names are associated with recent botanical works), I have received lists of species of grass they have collected—the former in Dallas and neighboring counties, the latter in Western Texas. They have both expressed their willingness to assist in preparing a list of Texas plants, which will be accompanied by a map of the state. I am indeed grateful to them, also to Dr. Buckley for his kind invitation to prepare a report on the grasses of the state; this in connection with the Geological survey—the plans for which, it is hoped, may, in a year or two, be in operation. I also extend my thanks to Prof. Scribner, of Philadelphia, and to Dr. Vasey, of the Ag. Dept., Washington, (who have for years been careful students of the order, and are now recognized the two best authorities in this line in our country), for their valuable assistance in classifying many of the species I have collected, and for the encouragement they have expressed. They are now engaged in a full revision of North American grasses, and expect soon to publish jointly a catalogue as full and complete as possible. For the furtherance of this object, specimens and notes from Texas are in demand. To Mr. Reverchon I am further indebted for fifty additional species of grass, from his fine collection of Texas plants, one of the largest in the state.

This order justly claims special attention, as it is placed before all the other botanical orders in its usefulness to man; producing the great cereal crops of the world and furnishing food to the domestic animals. It is said that the grasses of America constitute one-twelfth of her “green things growing.” In the number of species this order ranks third. (Compositæ first and Leguminosæ second.) But in the number of individual plants it exceeds any other order. Among the economic properties of the grasses, many species are being employed in paper making;



some are valued for their fiber; a few have an honored place in the materia medica. Aside from the sovereign members of this family, as Maize, Sugar-cane, Rice and others, a number of species are the source (though in a much less degree) of starch, oil, sugar and other properties, which have in a measure been utilized.

Texas has long held a high reputation for her valuable nutritious grasses, which have been made one of the chief sources of her farming and live stock interests. Many of the species indigenous to the state have been introduced into other states, where they have become esteemed for their nutritive qualities and luxuriant growth. Texas can now claim for her Flora a long list of grasses, numbered in hundreds. To account for this great variety, a large proportion have become naturalized from other regions. There are emigrants from other states, from portions of Europe, a few from Asia and Africa, some from Mexico and a few from the West Indies. Though some of the grasses are cosmopolitan, as with many of the weeds, they do not show this character so marked as in many of the other botanical orders.

A highly important point in this study of grasses is in reference to the classification of soils. The variety of soils in the state might be indicated by the indigenous grasses in connection with the timber growths. A careful report of the Forestry of the state, giving a list of the different species of trees, their chosen localities and range—together with a list of the grasses, giving also their habitats and geographical limits—might be made to prove that certain species of grass are associated with certain tree species in the same localities. A knowledge of this kind might be of great help in determining the chemical and physical properties of the different soils. In preparing a work on the grasses of the state, the varied character might be noticed in species from the "pine barrens," from the "oak openings," from the different rocky formations, from lands bordering the coasts, or adjacent to the cypress swamps, or along the numerous streams.

Besides the grasses in the herbarium here, I have made several sets of other species—mostly from Brazos county, with a few specimens from other parts of the state; making a large addition to the list published a year ago. There is reason to think that this institution can obtain before long a full collection of species of Texas plants, which may be made to serve for reference and instruction; also a fair collection of plants from other portions of the country. Of late, a growing interest has been shown in the Texas Flora from all over the land. Colleges similar to this, and other institutions, desire specimens of plants of the state, in many cases making additions to sets already obtained. Some of the leading botanical specialists are receiving acquisitions from Texas, enabling them to carry out certain lines of investigation. I refer to the careful monographs that have been prepared and

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are being revised on the Cacti, grape-vines, sedges, rushes and grasses, and of the Compositæ and the Leguminosæ; of all of which, Texas has a liberal endowment of species. In portions of Europe there are calls for specimens of Texas plants; certain parties asking for grasses in particular.

The grasses named in the list here presented, are so arranged in the herbarium that they can be of ready reference when desired. Doubtless a few hours spent in the herbarium every week by students in the Agricultural class, might be of advantage in learning characteristics and structures of certain species. In connection with this, a botanical garden might be regarded as important, where the living specimens can be cultivated and their habits studied; where interesting and valuable experiments might be made.

LIST OF SPECIMENS OF TEXAS GRASSES IN THE COLLEGE HERBARIUM.

1	<i>Arundinaria tecta.</i>	42	"	<i>gymnocarpum.</i>
2	<i>Arundo donax.</i>	43	"	" [var. minor.
3	<i>Sorghum vulgare.</i>	44	"	<i>colantum.</i>
4	" <i>halapense.</i>	45	"	<i>obtusum.</i>
5	<i>Erianthus</i> ———	46	"	<i>Texanum.</i>
6	<i>Andropogon scoparius.</i>	47	"	<i>debile.</i>
7	" <i>furcatus.</i>	48	"	<i>hirtellum.</i>
8	" <i>argenteus.</i>	49	"	<i>autumnale.</i>
9	" <i>Elliottii.</i>	50	"	<i>capillare.</i>
10	" <i>Virginicus.</i>	51	"	<i>fuscum.</i>
11	" ———	52	"	<i>depruperatum.</i>
12	<i>Chrysopogon nutans.</i>	53	"	<i>laenanthum.</i>
13	" ———	54	"	<i>ciandestinum.</i>
14	<i>Leptochloa mucronata.</i>	55	"	<i>paniciform.</i>
15	" <i>fascicularis.</i>	56	"	<i>cus galli.</i>
16	<i>Cynodon Dactylon.</i>	57	"	" [var.
17	<i>Chloris verticillata.</i>	58	"	————
18	" <i>eucllata.</i>	59	"	————
19	<i>Eleusine Indica.</i>	60	<i>Bouteloua affinis.</i>	
20	<i>Dactyloctenium Aegyptiacum.</i>	61	"	<i>hirsuta.</i>
21	<i>Paspalum Floridanum.</i>	62	"	<i>oligostachya.</i>
22	" <i>laeve.</i>	63	"	<i>curtipendula.</i>
23	" <i>distichum.</i>	64	"	<i>Burkii.</i>
24	" <i>plicatulum.</i>	65	"	<i>trifida.</i>
25	" <i>setaceum.</i>	66	"	<i>aristidoides.</i>
26	" <i>digitaria.</i>	67	<i>Eragrostis oxylepis.</i>	
27	" <i>ovatum.</i>	68	"	<i>poaeoides.</i>
28	" <i>compressum.</i>	69	"	<i>Purshii.</i>
29	" ———	70	"	<i>pilosa.</i>
30	<i>Panicum sanguinale.</i>	71	"	<i>pectinacea.</i>
31	" <i>filiforme.</i>	72	"	<i>capillaris.</i>
32	" <i>agrostoides.</i>	73	"	<i>curtipedicellata.</i>
33	" <i>anceps.</i>	74	"	<i>tenuis.</i>
34	" <i>proliferum.</i>	75	"	<i>reptans.</i>
35	" <i>dichotomum.</i> [var. pu-	76	"	————
	bescens.	77	<i>Trienspis albenscens.</i>	
36	<i>Panicum</i> " [var. laxifolia	78	"	<i>acuminata.</i>
37	" " [var. nitidum	79	"	<i>mutica.</i>
38	" " [var. barbula-	80	"	<i>trinervigulumis.</i>
	tum.	81	"	<i>Texana.</i>
39	<i>Panicum virgatum.</i>	82	"	<i>stricta.</i>
40	" <i>hiaus.</i>	83	"	<i>seslerioides.</i>
41	" <i>paspaloides.</i>	84	<i>Triplasis purpurea.</i>	

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85	<i>Buchloe dactyloides.</i>	124	"	<i>setanion.</i>
86	<i>Schedonnardus Texensis.</i>	125	"	<i>striatus.</i>
87	<i>Gymnopogon latifolius.</i>	126	<i>Sporobolus tenacissimus.</i>	
88	<i>Setaria glauca.</i>	127	"	<i>cryptandrus.</i>
89	"	128	"	<i>asper.</i>
90	"	129	"	<i>Vaginifloris.</i>
91	"	130	"	" [var. <i>tenuis.</i>
92	<i>Leersia Virginica.</i>	131	"	<i>Arkansana.</i>
93	"	132	"	<i>asperifolius.</i>
94	"	133	"	<i>Indica.</i>
95	<i>Uniola latifolia.</i>	134	"	<i>airoides.</i>
96	"	135	"	—
97	<i>Muhlenbergia diffusa.</i>	136	<i>Cenchrus tribuloides.</i>	
98	"	137	"	<i>echinatus.</i>
99	"	138	"	—
100	"	139	<i>Rottboelia cylindrica.</i>	
101	"	140	<i>Aristida oligantha.</i>	
102	"	141	"	<i>purpurea</i> [var. <i>Fendlerii.</i>
103	"	142	"	" [var. <i>longiseta.</i>
104	<i>Poa annua.</i>	143	"	<i>gracilis.</i>
105	"	144	"	<i>purpurascens.</i>
106	"	145	"	<i>demantha.</i>
107	"	146	"	<i>stricta.</i>
108	<i>Eatonia obtusata.</i>	147	"	<i>lanata.</i>
109	<i>Agrostis scabra.</i>	148	"	—
110	"	149	<i>Eriocoma cuspidata.</i>	
111	<i>Stipa setigera.</i>	150	<i>Danthonia spicata.</i>	
112	"	151	<i>Trisetum interrupta.</i>	
113	<i>Alopecurus geniculatus.</i>	152	"	<i>Hallii.</i>
114	<i>Festuca tenella.</i>	153	<i>Thurberia Arkansana.</i>	
115	"	154	<i>Distichlys maritima.</i>	
116	"	155	<i>Diarrhena Americana.</i>	
117	<i>Bromus unioloides.</i>	156	<i>Triticum repens.</i>	
118	"	157	<i>Hordeum pratense.</i>	
119	"	158	<i>Penisetum Abyssinicum.</i>	
120	<i>Tripsacum dactyloides.</i>	159	<i>Melica mutica.</i>	
121	<i>Phalaris Americana.</i>	160	"	" [var. <i>diffusa.</i>
122	<i>Elymus Canadensis.</i>	161	<i>Eriohloe molle.</i>	
123	"	162	<i>Hilaria mutica.</i>	
	<i>Virginica.</i>			

Respectfully submitted,  
G. C. NEALLEY.

Steward's Report.

A. & M. COLLEGE OF TEXAS, }  
College Station, June, 1883. }

Col. J. R. Cole, acting President.

SIR:—I have the honor to submit the following report in regard to the condition and wants of the Mess Hall. The efficiency and economy of this department will be promoted greatly

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by making the following improvements:

Brick store-room and cellar.

Bakery repaired and oven remodeled.

One large brick cistern.

Mess-hall painted inside.

Inside blinds.

One large hotel boiler.

Forty head of beeves.

More efficient cook.

One extra cook for side tables.

Two pumps, kitchen and dining-room utensils.

CONDITIONS AND REMARKS.

The oven is now unfit for use, and has to be rebuilt. The brick cistern is much needed, on account of our department being constantly out of water. The interior of the mess-hall has not been painted since the college was built, and its appearance now is not at all presentable. The ceiling and walls should be painted this summer, and inside blinds be put to the east windows. A hotel broiler, to broil steak is absolutely necessary, by using it the meat keeps its flavor and juice, whereas, by broiling it on the naked range its flavor and juice disappear. The range, with little repairs, will last two more years. A word for improvement, to stop the dissatisfaction of the mess-hall cry for better board, since 1877.

1st, If we are not ready to slaughter our own beef I recommend, by all means, to purchase forty head of fat beeves by November, and pen in the college pasture, and by giving them shelter, cotton seed and grass, they will surely not lose one pound up to the day they are butchered for mess-hall winter use. During the three first months, and the severest of the year, January, February and March, when beef is unfit to use, by adopting the above plan, we will most surely have good, fat beef, and, I am certain that we will not have occasion for complaints. This present session we have used, in nine months, one hundred and twelve head of beeves, of which only thirty head were used in January, February and March; and will also call your attention to the fact that all groceries and produce have gone up fifty per cent. since 1877, except coffee.

A variation of diet is also required, and can be given with a little more expense. One glass of sweet milk daily to each student in this climate will go as far as a glass of claret. Leakage cannot be stopped without efficient help, which will give better satisfaction, and is more profitable at the end. It is also absolutely necessary to engage one good second cook and one general assistant.

I am, sir, very respectfully,

B. SBISA,

Steward.

## Report of The Faculty.

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A. & M. COLLEGE OF TEXAS, }  
College Station, Texas, June, 1883. }

To the Honorable Board of Directors of the Agricultural and Mechanical College of Texas.

It is with gratification that the Faculty recognizes the fact that since its reorganization the College has received nothing but commendation from those who have inspected its operations. Unfavorable criticisms have appeared from time to time but in every instance they have come from those who have never visited the College and evince, in themselves, ignorance of the requirements of the United States law establishing and endowing the College and of the work now being done here.

Reference to the Report of the Commissioner of Education of the U. S. and to catalogues of the A. & M. Colleges of other states will show that this College is conforming more strictly than perhaps any other to the requirements of law; for while it is believed that the Agricultural, Mechanical, Literary and Military instruction given here fully meets the plainly expressed intention of the Act of Congress, in most states some one of these branches is given a prominence amounting to suppression of the others. Here actual practical instruction in Agriculture and Mechanics forms the leading feature but the law is not ignored by the neglect of the other branches of study required by it.

The Faculty invite inspection of the College and intelligent criticism based upon knowledge of facts, but protest against the blind censure of those who can adduce nothing in support of their utterances except vague rumors or the reports of disgraced ex-students.

The Faculty respectfully suggests that the Board of Directors prepare an address to the people of our state calling attention to these facts, and inviting the most searching investigation of the present course of study and work at the College to the end that the institution may become known to the people as



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it is, and not rothugh the misrepresentations of ignorance and prejudice.

CURRICULA OF STUDIES.

We respectfully recommend the following revised Curricula of Studies:

AGRICULTURAL COURSE.

FIRST YEAR—THIRD CLASS.

1ST TERM.	Mathematics.	Aritmetic. ( Venable ) Reviewed — Algebra, Davies' Burdon.
	English.	Clark's Normal Grammar. James' Southern Selections, bi-weekly composition and declamation.
	Agriculture.	History and Descriptions of breeds of domesticated animals, cattle, horses, sheep, swine, by lectures.
	Physies. Drawing. Practice.	Lectures on Elementary Physies. Free Hand. Farm Carpentry.
2ND TERM.	Mathematics.	Algebra finished—Davies' Burdon.
	English.	Alex. H. Stephens' History of United States; James' Southern Selections; bi-weekly compositions and declamations.
	Agriculture.	Gray's Structural and Systematic Botany; soils, their formation, constituents, classification, &c.
	Physies. Drawing. Practice.	Lectures on Elementary Physies.  Farm Carpentry. and Farm, Garden and Orchard culture.

SECOND YEAR—SECOND CLASS.

1ST TERM.	Mathematics.	Plane, Solid and Spherical Geometry, Venable.
	Physies.	Gages' Physies, Lectures, Experimental Illustrations.
	Agriculture.	Mile's Stock-Breeding; History of Agriculture lectures.
	English. Practice. Monthly essay.	Hill's science of Rhetoric. Instructive Agricultural practice.
2ND TERM.	Mathematics.	Plane and Spherical Trigonometry, Mensuration and Surveying, (Schuyler), Field Practice in Surveying.
	Chemistry.	Rosecoe's Chemistry; Chemical Physies; laboratory work.
	English. Agriculture	Universal History (Anderson). Fertilizers, field crops tillage, lectures;
	Practice. Monthly essay.	White's Gardening in the South. Instructive Agricultural Practice.

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THIRD YEAR—FIRST CLASS.

1ST TERM.	Mathematics.	Theory of Equations, Leveling with Field Practice. Mechanics (Wood) and Lectures. Analytical Geometry (optional).
	Agriculture.	Zoology, Entomology, Anatomy and Veterinary Science.
	Chemistry.	Laboratory work in qualitative analysis.
	Astronomy.	Lockyer's Outlines.
	English.	Johnston and Browne's English Literature.
	Professional Thesis.	
	Lectures by the President.	
	Practice.	Experimental Agriculture.
2ND TERM.	Mathematics.	Mechanics, (Wood), and Lectures. Analytical Geometry (optional).
	Chemistry.	Laboratory work in Agricultural Chemistry.
	Geology.	Dana's Elements.
	Agriculture.	Veterinary Science, Forestry, Meteorology.
	Lectures by the President.	
	Farm Engineering.	Irrigation, drainage, water supply of farms, farm buildings, roads, fences, implements, machinery, &c.
	Graduating Thesis.	

MECHANICAL COURSE.

FIRST YEAR—THIRD CLASS.

1ST TERM.	Mathematics.	Arithmetic, (Venable), Algebra, (Davies' Bourdon).
	English.	Clark's Normal Grammar, Compositions and Declamations, James' South'n Selections.
	Physies.	Lectures on Elementary Physics.
	Drawing.	Freehand Drawing.
	Shop Work.	Elementary constructions in wood with hand tools.
2ND TERM.	Mathematics.	Algebra, Davies' Bourdon.
	English.	Alex. H. Stephens' History of United States; Compositions and Declamations; James' Southern Selections.
	Physies.	Lectures on Elementary Physics.
	Drawing.	Geometrical Constructions with Instruments; McCord's Mechanical Drawing.
	Shop Work.	Practice with wood-working machinery.

SECOND YEAR—SECOND CLASS.

1ST TERM.	Mathematics.	Plane, Solid and Spherical Geometry, Venable.
	Engineering.	Fairbairn's Elements of Mechanism.
	Physies.	Gage's Physics, Lectures, Experimental Illustrations.
	English.	Hill's Science of Rhetoric.
	Mechanical Drawing.	McCord's Mechanical Drawing.
	Shop Work.	Elementary Metal-working, filing, chipping, screw-cutting, steam-fitting.
	Monthly Essay.	

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2ND TERM.	Mathematics.	Plane, Solid and Spherical Trigonometry, Mensuration, Surveying, (Schuyler), Field Practice in Surveying.
	Chemistry.	Rosecoe's Chemistry; Chemical Physics; Laboratory work.
	English.	Universal History, (Anderson).
	Engineering.	Fairbairn's Elements of Mechanism.
	Mechanical Drawing.	Projections of Elementary Machines,
	Shop Work.	Machine tool work—as boring, turning, screw-cutting, drilling, &c.; Practical Steam Engineering; mill-work.
	Monthly Essay.	

THIRD YEAR—FIRST CLASS.

1ST TERM	Mathematics.	Theory of Equations—Leveling with Field Practice. Mechanics (Wood) and lectures. Analytical Geometry (Church)
	English.	Johnston & Browne's English Literature.
	Engineering.	Mahan's Civil Engineering. Bourne's Steam Engineering; Iron and Steel,
	Astronomy.	Lockyer's Outlines.
	Mechanical Drawing.	Designs for Machines and Structures.
	Professional Thesis,	
	Shop Work.	
	Lectures by the President.	
2ND TERM.	Mathematics.	Mechanics (Wood) and Lectures. Analytical Geometry (Church) and Lectures. Lectures on the History, Utility and Philosophy of Mathematics.
	Geology.	Dana's Elementary.
	Mechanical Drawing.	
	Shop Work.	Graduation Construction,
	Lectures by the President.	
	Graduating Thesis.	

All students must enter one or the other of these Courses, each making his own selection.

Every student satisfactorily completing either three years Course will be awarded a diploma certifying to that fact.

Optional Courses in the Ancient and Modern Languages are open to students without extra charge.

By comparison with the Curriculum as now pursued, it will be found that few changes are suggested.

We have tried the present Courses of Study for two years only, and while there might be some advantages in changing the Courses, these would be overcome by the disadvantages which must attend want of stability.

The Mechanical Course has been very satisfactory, and the number of students taking that course has shown that it was needed in our state.

The Agricultural Course has not been so popular with our

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students. A committee of the faculty spent most of its time in trying to discover and remedy the causes for this want of appreciation of a most instructive, important and useful Course of Study.

This college has not been alone in the want of popularity in the Agricultural course.

In a recent report by Dr. E. W. Hilgard, Professor of Agriculture in the University of California, speaking of the small number of students who have taken the Agricultural course, says: "It is true that these numbers are still very small as compared with the predominance of Agriculture, as a pursuit among the population of the state. Here, as elsewhere, we may expect this apparent anomaly to disappear, whenever the soil shall fail to yield, as it now does, abundant returns to even the rudest culture."

To determine the best and most feasible modes of maintaining the fertility of the lands, and to diffuse a knowledge of the best experience of the past, is, in the opinion of that eminent scientist, the most direct means of benefitting Agriculture in the United States. In this opinion the Faculty heartily concur.

Hon. John Eaton, U. S. Com. of Education, in summing up the recent progress of these Colleges says:

"Uninstructed manual labor is encouraged only when the circumstances of the student compels it. \* \* \* \* History, Literature, Mathematics, Modern Languages and Natural Sciences are retained as forming a substantial part of the education which prepares for intelligent agriculture. No relation seems to have been discovered between one branch of agricultural study and another, upon which to base a classification of them for consecutive study. Subjects pursued in the freshman year of one college are found in the senior year of another."

With all the disadvantages attending the inauguration of a new system of education, the College has made substantial progress; and with the support of the people of our state, it is believed that the Agricultural Course may be made of great benefit to the state.

The Faculty would recommend that no degree be given to the graduates of this college, because if obtained after a course of study necessarily so limited, a degree would confer no honor upon the student, nor the College. But, that students who may wish to obtain degrees may have facilities for so doing, we would recommend to your Honorable body to establish the three following Post-graduate courses of one year each, with the accompanying degrees to be conferred upon satisfactory examination

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in the several departments named.

First.—Bachelor of Science.

Agriculture, Mathematics, Chemistry, one Modern Language Lectures in English.

Second.—Civil engineering.

Mathematics, Engineering, Mineralogy, and Geology, one Modern Language, Lectures in English.

Third.—Mechanical Engineer.

Mechanical Engineering, Mathematics, Physics, one Modern Language, Lectures in English.

Requirements for admission to study for these degrees should be, that the candidate be a graduate in one of the courses, or pass satisfactory examination upon subjects embraced in them.

Students for these degrees to be under the general regulations of the College, but not subjected to Military discipline, except as they may be required to assist in keeping order in the Barracks.

The Faculty recommend that the Department of Philosophy and Political Economy be stricken out of the Catalogue as not forming a necessary part of an Agricultural or Mechanical Education.

REPAIRS AND IMPROVEMENTS.

The Faculty respectfully recommend the following estimates of needed repairs and improvements as a basis for your action in disbursing the appropriation made by the last legislature.

1. Mess Hall, including store room, cellar, bakery, range, cistern, furniture, repairs, &c.....	\$4,000
2. Repairs of professors' houses, including fences, painting, &c.....	1,500
3. Hospital and equipment.....	2,200
4. Repairs and improvements of dormitories .....	3,350
5. Gas machine, piping and fittings, 250 lights.....	1,800
6. Tower clock complete with 300 lb. bell.....	450
7. Room furniture for dormitories.....	300
8. Machine shop of brick, with boiler house, chimney, &c.....	4,500
9. Mechanical equipment—wood lathes, wood surfacer, iron planer, iron lathes, shafting, belting, &c.....	3,000
10. Mechanical instruments, including transits, levels, compasses, solar compass, &c.....	700
11. Chemical laboratory and apparatus necessary for instruction in agriculture.....	2,000
12. Agricultural Department .....	13,333
13. Contingentes .....	2 867

In making up these estimates the importance of equipping the Agricultural Department as fully possible is recognized by recommending for its use one third of the entire amount of the appropriation leaving for other purposes only what is necessary or expenditures of urgent importance. No margin has been left for reducing these items, since they are



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largely for repairs, without which there will be much loss of valuable property in a short time, and also for improvements regarded as of prime importance in efficiently conducting the several departments of the College. One of the chief improvements asked, the gass machine, has long been needed as numerous fires have already occurred from the use of coal oil which is a source of continued uneasiness on account of the danger to which it exposes the persons of students and the property of the state, beside the greater expense, waste and dirt involved in supplying it to students.

It is respectfully recommended that no additional dormitories be built at this time. If the college be kept to its proper work as an Agricultural and Mechanical College it is not probable that in some years the demands of our state will require increased dormitory accommodations; and if they did a larger number of students than can at present be boarded and lodged here could not be properly instructed without an increase in the number of professors which would require a larger permanent endowment than the college has at this time. It is believed that this institution will do a work far more creditable to itself and useful to the State by thoroughly and carefully training a moderate number of students with all the advantages of well equipped departments than by attempting to teach a crowd of boys in the slipshod way which such an attempt involves. The Faculty protest against the idea so largely prevalent that the number of students constitutes the criterion of the success of a school. The characters and acquirements of its students should proclaim the the quality of the work done in any institution of learning.

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Report of Secretary of Board of Directors.

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A. & M. COLLEGE OF TEXAS, }  
College Station, Texas, June, 1883. }

Hon. J. D. Thomas, President Board of Directors.

SIR:—I have the honor to submit the following report as Secretary of the Board of Directors. The condition of several Funds to credit of the A. & M. College on July 1st, will be as follows:

INTEREST ON ENDOWMENT—U. S. LAND GRANTS.

Balance in State Treasury according to Statement  
furnished by State Treasurer, (June 9th, 1883). . \$ 2758 11

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Accounts approved for June..... 1768 88

Balance.....\$ 989 23

I have approved accounts since the beginning of the present session for.....\$12849 97

The salary of the Acting President is due from April 1st, to July 1st.

Prof. Gartner died Feb. 15th, and, as I could not approve his account for the month of February without authority from the Board, I left that account unpaid, and respectfully refer the same to the Board for their action.

I respectfully submit my Memorandum Book of vouchers approved, for the inspection and approval of the Board.

I would recommend that I be authorize to procure a well bound book of Secretary's warrants, so that the stubs may show the amount of each warrant, and to whom paid. Unless some such system is adopted it will be very difficult for the accounts to be kept correctly.

I think there may be a discrepancy between the accounts kept by me and those kept by the State Treasurer. This is due to the fact that Professors do not always collect their vouchers promptly at the end of each month.

DEFICIENCY APPROPRIATIONS FOR MAINTENANCE OF STATE  
STUDENT TO JUNE 27TH, 1883.

Appropriation by 18th Legislature.....\$ 6000 00

Drawn out on approved accounts..... 5999 16

Balance.....\$ 0000 84

DEFICIENCY APPROPRIATION.

For expense of suit relating to the title to certain land connected with the College, now pending in the Supreme Court.....\$ 800 00

Drawn on an approved account..... 258 95

Balance.....\$ 541 05

APPROPRIATIONS BY THE 18TH LEGISLATURE.

For the maintenance and support of the Agricultural and Mechanical College, to be expended as follows:

For the year ending Feb. 24th, 1884.....\$30000 00

Of this amount there has been expended by acting President, but not drawn from the Treasury.....\$ 671 82

For the year ending Feb. 28, 1885.....\$10000 00

REMARKS.

I see from the minutes of a former meeting of the Board that there are a number of papers belonging to the archives of the College in the Governor's Office; I would respectfully recommend that the Secretary be authorized to procure these papers, classify them and file them away for future reference.

Congress has recently passed two appropriations which have referenc to the A. & M. College. One to enable the Smithsonian Institution to furnish to colleges duplicate sets of specimens, domestic and foreign, presented to that Institution by exhibitors at the Centenial Exposition. Another to enable the Secretary of the Treasury to furnish each of these Colleges with a set of standard weights and measures. I had some correspondence with Prof. Baird, Secretary of the Smithsonian Institution in regard to the specimens and have received his promise to place this College on the list of those which will receive a duplicate set.

PROF. M. E. B. GARTNER.

It is with sincere regret that I record the fact, that the College sustained a great loss in the death of Prof. Gartner, on the 15th of last February.

PRAIRIE VIEW NORMAL SCHOOL.

By resolution of the Board at their last meeting I was instructed to audit and keep a record of all expenditures for the Prairie View Normal School.

I respectfully submit my books for the inspection and approval of the Board.

I submit the following statement of the several appropriations for this Institution.

SPECIAL APPROPRIATIONS BY THE 17TH LEGISLATURE.

For Repairs, Library, Mules, Cows, etc.....\$ 3350 00

I have submitted vouchers as follows:

For pair of mules.....	\$ 300 00	
“ improvements, repairs, etc.....	2350 79	
“ library .....	300 00	
“ cows .....	150 00	3100 79

Leaving balance.....\$ 249 21

The Comptroller charged some of these expenditures to the appropriation for support and maintenance. According to his books there has been expended the amount of \$2482 99. This

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taken from amount charged on books, as above, leaves a balance of \$617 80, leaving yet to be expended by the Board \$861 61.

APPROPRIATION FOR SUPPORT FOR YEAR ENDING AUG. 31, '83.

Amount appropriated by the Legislature.....	\$ 6000 00
Expended and charged to this appropriation by the	
Comptroller .....	5118 56
Leaving Balance unexpended.....	\$ 881 44

There has necessarily been some confusion in these accounts, due to the fact that the fiscal year of the School and of the State end with different dates. I have matured a plan of keeping the books and accounts which I will submit to the Finance Committee and if approved by them I think hereafter there will be no confusion. There was an account against this school of \$712, 23 which was not presented at the last meeting of the Board. Of this account \$491.48 remains unpaid, as the appropriation for the fiscal year ending August 31st, 1882, had been exhausted before it was presented.

The following appropriations made by the 18th Legislature are at the disposal of the Board for Improvements &c, and for support and maintenance for year ending Aug. 31st, 1884.

For support and maintenance for year ending August	
31st, 1882.....	\$ 7500 00
For year ending Feb. 29th, 1884	
Building School Room.....	800 00
Re-covering Dormitory Male Department.....	500 00
Recitation and reception rooms 40x30.....	2000 00
Library apparatus &c.....	500 00
Lamps, stoves &c.....	300 00
Wagon, two horses and harness.....	300 00
Enlarging and furnishing laundry.....	500 00
Furniture for new Houses.....	200 00
Fencing pasture and farm.....	500 00
Extra allowance to increase facilities for the accom-	
modation and preparations of Colored teach-	
ers to be expended under the directions of the	
Board of Directors of the A. & M. College.....	2500 00
Total .....	\$ 8100 00

COLORED SCHOOL TEACHERS

I received during the past session through Hon. Geo. Pfeuffer a letter from the County Judge of Anderson county asking for the rules prescribed by the Board of Directors in regard to grad-

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uates of Prairie View being admitted to teach in the public Schools. I respectfully suggest that the Board prescribe definite rules on this subject.

CONCLUSION.

I herewith submit the Books pertaining to my office, which will show in detail all vouchers audited by me both for the A. & M. College and for Prairie View Normal school.

Respectfully submitted,

LOUIS L. McINNIS,

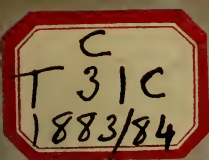
Secretary of Board of Directors, A. & M. College of Texas.











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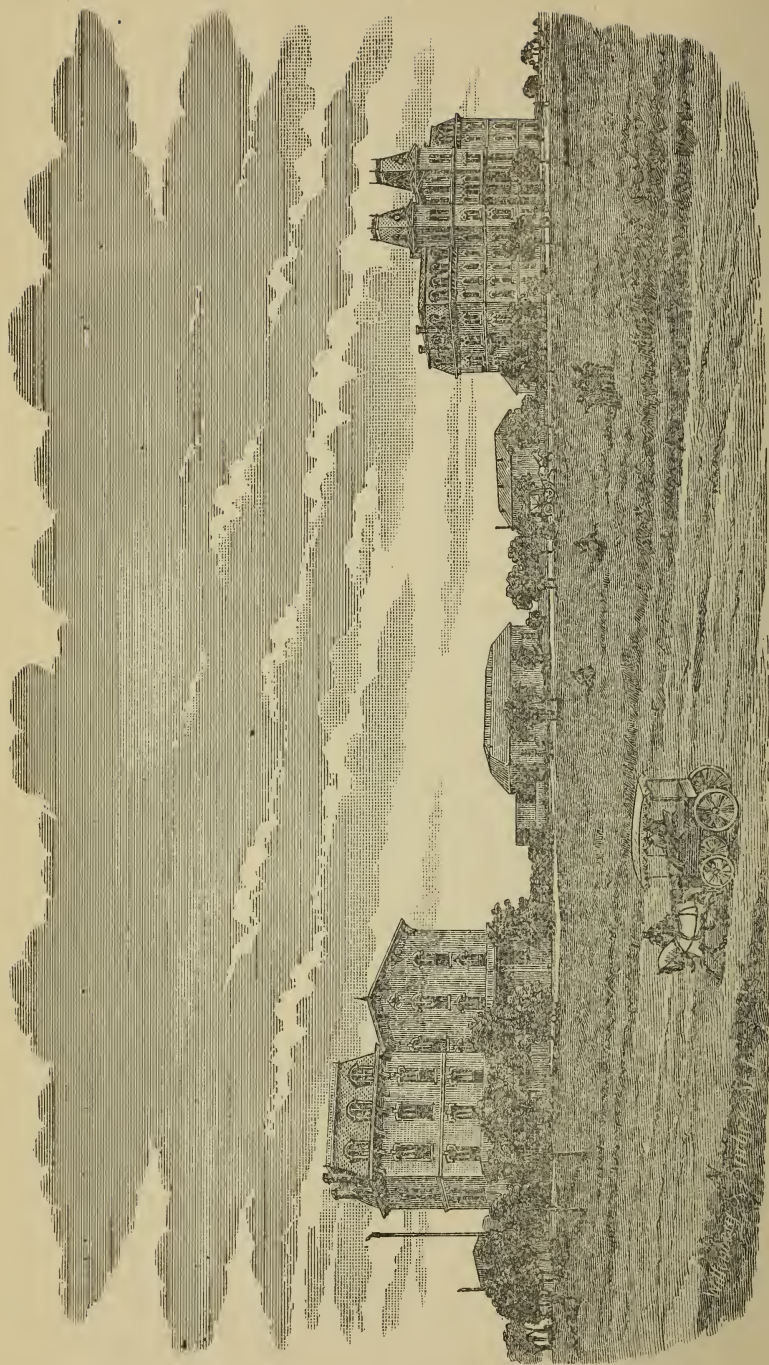
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# AGRICULTURAL AND MECHANICAL COLLEGE.

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## REPORT OF THE CHAIRMAN OF THE FACULTY.

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A. & M. COLLEGE OF TEXAS. )  
College Station, Texas, June, 1884. }

Hon. George Pfeuffer, President of Board of Directors.

SIR ;—In presenting this my first annual report as Chairman of the Faculty it is with great pleasure that I congratulate your honorable Board upon the success which has attended the academic work of the past year and the present healthy and vigorous condition of the College.

To those who are accustomed to measure the usefulness and success of an institution of learning simply by the number of its students, this may seem an empty boast. It is important therefore that it should be shown that it is fully warranted by facts.

In what then does the success of any institution consist? I do not hesitate to reply that chiefly it consists in the honest and faithful prosecution of the work for which it was founded. That this may be fairly claimed for this college is shown by the satisfaction of students, by the unanimous verdict of citizens who have taken the trouble to visit the institution, by the dying out of the former widespread hostility of the state press, by a growing friendly interest on the part of our farmers and by the perfect harmony and absence of sensational events in the internal working of the college itself.

At the beginning of the session which has just closed the question was asked repeatedly "will not the opening of the University at Austin injure the Agricultural and Mechanical College?" Even the best friends of this institution asked the question seriously



## A. & M. COLLEGE OF TEXAS.

and without apparent appreciation of the superficial views which it implied. The answer has been presented by the course of events. So far from injuring it, the University and its legal branch has been the chief external cause of the present highly satisfactory status of this the industrial branch. Until the literary and legal departments were established an unknown number of our students were looking forward to other occupations than this college proposed to fit them for. These constituted an unsympathetic element among our students. Every advance of the college toward its true objects was met by the declarations of its timid friends that radical reforms however honest would drive away these students and offend their parents. The experience of other Agricultural and Mechanical Colleges led to the belief that there was no ground for apprehension on this account, but it laid upon those who felt it their duty to go forward a responsibility so serious as really to produce hesitation and embarrassment.

The opening of the University at once changed all of this. The A. & M. College it was supposed had been resting on a fictitious patronage, this was taken away and now it appears that the institution is able to command such strong support in its own proper sphere that its title to the fostering care of our state is fully vindicated.

While the number of students does not by any means indicate the worth or efficiency of any institution of learning it does furnish a means of arriving at the opinion of the people in regard to the value of the institution given. The course of study here breaks away from time honored traditions, especially of the South. Constrained by congressional law to give training in the sciences which bear on the practical arts of life, it recognizes the vast scope of these sciences in modern times, and does not pretend to attain impossibilities by adding the accomplishments of linguistic culture. The establishment of the University and its legal branch leaves no ground for any citizen to demand that this institution shall do any other than its legitimate work, and having clearly set forth their intention to adhere strictly to this the authorities here have awaited the verdict of

## A. & M. COLLEGE OF TEXAS.

the people. It has come during the past session in an unmistakable form.

The University has opened its doors under the happiest auspices. With a splendid endowment, with a faculty comprising some of the most famous scholars in the world, with the good will of the press and the people it freely offered its great advantages to every Texas youth. Young men and women have not been slow to accept the offer. The University has met with deserved appreciation at the hands of our people.

But the A. & M. College has suffered no injury from this. Our number of students is not large, yet when we consider the fact that only young men over fifteen years of age are received here and that we have very few local students on account of our distance from any town, it is apparent that in mere numbers this institution is second to none in the state. And this is the more noteworthy and gratifying from the well known fact that even the most successful schools of practical science have in other states been slow to attract large numbers of students and indeed in most cases have not done so at all.

The people of Texas have thus shown an appreciation of the value of technical training which should greatly encourage those to whose hands this work has been committed.

This comparison of the numbers of students here and elsewhere in the state is not intended to be invidious in the slightest degree. It is presented to answer the narrow and unpatriotic assertions that have occasionally been made with the intention of producing the impression that the opening of the main University has superceded the necessity for such an institution as this. The farmers, the business men, the great body of our people declare differently. Without taking from the university the least portion of the glory and patronage that belong to it, they recognize that nothing can be of greater importance than the practical industrial training of our young men to which this college is dedicated.

The patriotic pride of our people is wide enough to embrace our University with all its branches. The intelligence of our people is sufficient to recognize the distinctive work of each of

these branches.

This College cannot comfortably furnish quarters for more than 150 students. Its faculty is small for the proper and thorough instruction of even that number. There have been 108 matriculates during the session and it will be seen that but for the failure of the legislature to provide for the 93 state students who were sent last session we should have been uncomfortably crowded this year.

As it was, most thorough instruction has been given to each student. There have been few changes from last sessions course of study and practice, and a very desirable sense of stability in its educational policy and aims has settled down upon the College. Perhaps the chief difficulty we have had to encounter in our work has been the want of information among our people as to what has been done here. To overcome this the professor of agriculture and myself issued early in the session a bulletin explaining briefly the plans of the College and requesting the co-operation of our farmers in carrying them out. This appeal has met with kindly responses from prominent farmers and has led to correspondence with them which has it is believed awakened the interest of many who have heretofore regarded the institution with indifference. The Agricultural press of our state cordially gives support to our efforts by editorial notices and the publication of communications from professors. But the college is not yet sufficiently known to our citizens. It is therefore proposed that during the vacation such officers of the College as may be able to do so shall meet the farmers of the state wherever they may hold assemblies and present the claim of the college to their confidence and support. It is to be hoped in the course of a year or two our farmers may adopt the plan of holding regular "farmers institutes" at which professors of the college may be present and where there may be free discussion of experiments and researches which have been already commenced here. This plan has been adopted in Kansas and other states for some time with signal benefit both to the farmers and the Agricultural Colleges.

The serious mistakes which rendered our agricultural course

## A. & M. COLLEGE OF TEXAS.

unpopular upon the reorganization of the college have under the administration of the present professor been almost forgotten, and the gratifying fact of an increase in the number of agricultural students was presented during the session. The mechanical department under its new professor has not lost any of its prosperity but the agricultural has gained very decidedly so that a large increase may be anticipated in the number of those who will choose the latter very attractive and generally useful course. The discipline of the corps has been good during the session.

A change of commandant soon after the opening of the session might have been expected to produce some temporary dissatisfaction, but if there was any thing of that kind the good judgment and tact of the commandant speedily corrected it, and the uncompromising strictness of military methods has been so admirably adapted to the industrial character of the college that the very valuable features of military training are presented without detriment to the main objects of the school.

Valuable additions have been made during the session to the facilities for instruction in the form of apparatus, machinery, stock, &c. all of which is noted in detail by the several professors in their reports.

The health of officers, students and professors has been excellent. I have given a course of lectures extending through the session on Physiology and Hygiene, and the close attention which the students have given to them lead me to believe that embodying as they did much information not usually presented to young men in any proper form, they will prove of great use in the future.

In conclusion, a study of the catalogues and reports of the most successful and useful of the colleges that were founded by the various states under the act of congress which endowed this institution leads to the belief that the A. & M. College of Texas in honest adherence to the requirement of the act has been excelled by none.

Some may have devoted their means and energies more completely to agriculture. but they have neglected wholly the

A. & M. COLLEGE OF TEXAS.

mechanical training required. Others have ruined their industrial courses by giving prominence to classical studies while at least, one of the most famous utterly ignores the military instruction plainly prescribed by congress.

We believe that this college has succeeded in assigning its proper place to each branch of study required by law, and that in subordinating the classics to the industrial studies it has complied not only with the United States law, but with the spirit of our state constitution, the will of our people, and the logic of our relation to the University.

Bulletin No. 2 of Experimental work conducted at the college during the past seven months has just been printed. This at last places the college among the experimental stations of the country and it is believed will give a most convincing proof of the thoroughly practical character of our work.

I cannot close this report without expressing my grateful appreciation of the cordial support which my colleagues of the faculty have given me in the discharge of my duties as chairman.

I am very truly,

Your obedient servant,

H. H. DINWIDDIE,  
Chairman of the Faculty.



## DEPARTMENT OF CHEMISTRY.

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A. & M. COLLEGE OF TEXAS. }  
College Station, Texas, June, 1884. }

Hon. Geo. Pfeuffer, President of the Board of Directors.

SIR :—Extensive repairs and improvements in the laboratory deprived us of its use for three months at the beginning of the past session. In spite of this the first class of agricultural students has accomplished a fuller course of practical chemistry than of any preceding class. The mechanical students of the first class have had, I regret to say, a very incomplete course. This was due to the fact that they were behind in their second class course and have not had time to make up their loss this year.

Our laboratories have been greatly improved during the session. Twenty working desks have been put in, a gas machine erected, and each desk and table supplied with burners. A stairway has been cut from the first story to the second, water is carried by a force pump to a tank in the second story where the student's desks are situated. New sinks have been built, a large draught chamber added, and one of the dark rooms near the entrance of the main building fitted up as a store and photographic room.

There have been many valuable additions to the apparatus. A beautiful Laurent's Saccharimeter, a fine digester, a Sprengle's pump and an additional balance have been imported, besides a large supply of the best Bohemian glassware and additional chemicals.

The student's desks have been furnished with full sets of reagent bottles, and many smaller pieces of apparatus for general use have been bought. These improvements bring our laboratory appliances to a very satisfactory state of efficiency and en-

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able us to meet all the demands both of instruction and research which will be likely soon to arise.

Since the laboratory has been available for use this session there has been no time for any chemical work apart from the instruction of students.

As the fund for chemical supplies is nearly exhausted I respectfully ask that a small fee be asked from each student of the classes studying the subject. I should suggest \$1 per quarter for students in theoretical chemistry, and \$2 per quarter for those working in the laboratory.

Very respectfully,

Your obedient servant.

H. H. DINWIDDIE,  
Prof. of Chemistry.

## DEPARTMENT OF MATHEMATICS

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A. & M. COLLEGE OF TEXAS.  
College Station, Texas, June, 1884. }

Prof. H. H. Dinwiddie, Chairman of the Faculty.

SIR :— I herewith submit my annual report of the Department of Mathematics for the session of 1882--4.

Instruction has been given to the first Class in Leveling, Algebra, Analytical Geometry, and Mechanics.

In leveling the class had practice in the field— in determination of difference of level and in leveling for sections.

The practice of the class has been so conducted that their work will be much assistance in establishing a proper system of drainage on the Campus and Farm.

In addition to the text used the class have had frequent oral and written lectures and have been required to solve weekly original problems.

The total number of the class during the session was fifteen.

Instruction has been given to the Second Class in Plane, Solid, and Spherical Geometry, Plane and Spherical Trigonometry, Mensuration and Surveying, with weekly exercises in demonstrations of original theorems and solution of problems.

In surveying the class were instructed in the use of the Compass, the Solar Compass and the Transit.

They have surveyed different plots of the College Campus. This class numbered 20 members.

Instruction has been given to the third class in Arithmetic and Algebra.

This class numbered 73 members.

Mr. R. F. Smith has continued to assist in the instruction in this department and has in addition taken charge of the Bookstore and been Corresponding Secretary of the Faculty.

I take pleasure in commending his zeal, faithfulness and efficiency in the discharge of his duties.

A. & M. COLLEGE OF TEXAS.

During last spring I surveyed the College tract west of the railroad, and marked the line of fence for the new pasture which has been enclosed.

As I stated in my last report we especially recognize the fact that a large majority of the students who apply for admission to the College are unprepared for our course. I can see no remedy for this evil unless we establish a preparatory class.

All of the A. & M. Colleges in the South have found a preparatory Class to be an absolute necessity, and until there is a more efficient System of Public Schools in our own State, we too must prepare our own students.

Through the liberality of the Eighteenth Legislature, this department is now thoroughly equipped with Surveying and Engineering Instruments—Solar compass, Plane Table, Transit &c

The progress of the classes has been satisfactory.

Respectfully Submitted,

LOUIS L. McINNIS,

Professor of Mathematics.

DEPARTMENT OF ENGLISH LANGUAGE, LITERATURE AND HISTORY.

A. & M. COLLEGE OF TEXAS,  
College Station, Texas, June 15th, 1884. }

Prof. H. H. Dinwiddie, Chairman of the Faculty,

SIR :—The report of the Department of English Language, Literature and History is herewith submitted.

During the year 1883--4 I have instructed every student in the College.

During the first term the First Class completed the subject of English Literature, reviewed the text books, were drilled in written exercises, delivered carefully prepared orations on subjects selected by myself, and stood an examination worthy of commendation.

During the Second term for two months I delivered a series of lectures on Language, Literature, Elocution and Logic.

During the first term the Second Class finished Rhetoric, reviewed the subject in written exercises, and were thoroughly drilled in criticism on the black-board. They stood a very acceptable examination in February. The Class finished, during the last term, Ancient History, and reviewed the subject in written essays on important periods and nations.

I summed up the work of the year in a series of lectures, devoting special attention to the customs, laws, religions and civilizations of the ancients. The Class were required to declaim and write compositions on subjects selected for them, during the whole year.

The Third Class was divided into three sections and recited to me in Clark's English Grammar during the first term, and in Stephen's History of the United States during the last term. They drilled daily on the black-board, reviewed the Grammar by writing abridgements of the work, and the examination generally was satisfactory. Special attention, as usual, was given to the History of the United States—to its government, constitution and laws, the great events, changes and history of parties.

It was my aim to instruct them thoroughly in the theory of



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our government—the best, when properly interpreted and administered, under which any people ever lived. The students completed the work, reviewed it in writing, by periods, and I summed up in a series of lectures during the last month of the term.

This Class wrote compositions on subjects selected for them, and declaimed alternately every week during the year. Much interest was manifested in the study of our History.

Considering the amount of labor required to teach all the student, in a Department of so many studies and the limited time necessarily allotted to each subject, I am satisfied with the progress of my classes.

By agreement of the Faculty I have arranged Mediæval and Modern History in the third year. as the subject of history, ancient and modern, is too vast to be finished in thirty or forty recitations.

I am very truly,

Your obedient servant,

J. R. COLE.

Prof. English Language, Literature and History.

## DEPARTMENT OF AGRICULTURE AND HORTICULTURE.

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A. & M. COLLEGE OF TEXAS, }  
College Station, Texas, June, 1884. }

Prof. H. H. Dinwiddie, Chairman of the Faculty.

Sir : I present herewith annual report of Department of Agriculture and Horticulture for the session of 1883-4.

Upon assuming my duties at the beginning of the session I found that a very great prejudice existed, on behalf of the students, against the Agricultural course—why, I can only surmise; it has been my main object to destroy or change this feeling.

In attempting to do this I have based my labors upon several well known principles.

1st. All labors during a college course, other than instructive labor, must be entirely voluntary and compensated by fair remuneration.

2nd. No course can be popular unless it be first attractive.

3rd. It must be made up of studies which students recognize as pre-eminently useful.

4th. The "Dignity of Labor" cannot be upheld by compulsion.

5th. The course should be made economical by permitting and encouraging its students to perform regularly, detailed work by which means a portion of expenses may be paid.

6th. That the Agricultural education is necessarily more broad and comprehensive than that required in a Mechanical course.

7th. That the natural Sciences and Chemistry, Veterinary Anatomy and Medicine are of the utmost importance in the course.

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Recognizing the truth of the above named principles, I have done my utmost to make the Department a success; and I am glad to state that results justify me in believing that the time is not far distant when all thought of unpopularity in the Agricultural course shall be a thing of the past.

I would gratefully acknowledge the kind of encouragement and hearty support given the department, in its academic work by the chairman and by each professor in the various departments.

The First class have taken up during the year, the study of cattle feeding using "Armsby" as a text, and being further aided by actual experiments conducted by the Department and by lectures. During the last term of the session they have taken a short but thorough course in Veterinary Anatomy and Medicine. They have assisted in preparing and mounting a complete skeleton of the horse which has aided them in securing a thorough knowledge of Veterinary Anatomy. They have also assisted in dressing and treating cases which have occurred at irregular intervals, thus acquiring a certain skill not obtainable from books.

While not being able in the short time allotted to make them competent Veterinarians; yet we can give such knowledge as will be of extreme moment in the care or supervision of stock.

The Second class have taken up during the year the principles of stock feeding.

\* For this purpose I have prepared a careful and systematic course of lectures, embracing in condensed form the laws and principles known to stock men of the world, and the different methods of applying them. During the second term of the session, the class have been occupied in the study of Cattle feeding, not completing it until the close of the first term, Senior year. They have also been engaged in actual experiments, as published in "Bulletin No. 2," to which I invite your attention.

The Third class have during the first term taken up a thorough course in the "History, Description, Care and Management of different breeds of domestic animals" by means of lectures, also starting in Horticulture using "Barry's Fruit Garden" as a text

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and taking notes on the changes necessary to suit our own climate.

The latter study was continued into the second term until the class took up Entomology in April. During the second term, Botany three days in the week was taken up using "Gray's School and Field-book" as a text and supplemented by lectures and black-board illustrations in differential analyses of flowers. The students are required to prepare and mount in an herbarium, fifty specimens of native or naturalized plants, writing out in full the analyses for forty specimens; twenty-five of which are allowed to analyze in class. The remaining ten are made up of Texas grasses and are supplemented by lectures on their economic value and modes of propagation.

Alternating with this study, Entomology was taken up two days in a week, the aim being to discuss in lectures the insects injurious or beneficial in Texas, their habits, description and the methods of extermination or prevention. During the first term the students were required to practice in the shops four hours each week, the object being to give a certain skill in the use of ordinary tools: in addition to this and also during part of the second term they have had irregular practice in the various instructive operations connected with Horticulture and Botany. Practice in this department must necessarily be irregular in order that it may come when vines or trees are in proper condition for working.

I am pleased to note the interest taken by the class in all of this work. In fact the interest shown by students in the course has been very satisfactory throughout.

During the entire course students are marked upon the work done in each study in accordance with rules and regulations of the College and the special order established by the Hon. Board of Directors at their last annual session, which marks taken in connection with grades in other departments shall determine the students entitled to the reward mentioned in the special order before referred to.

It is my intention so soon as practicable to assign to each member of the third class some simple problem for experimental

## A. & M. COLLEGE OF TEXAS.

heartly approval of yourself and of each member of the Hon. Board of Directors, I have prepared and present herewith a careful estimate of the amounts needed for the ensuing year, asking and respectfully urging that the amount be set apart subject to no infringement for the purposes and that accounts be kept with each head as subdivided in order that accuracy and economy may be secured :—

BARN for fine Stock, Hay and Machinery. with 3 ton stock scales and hay fork and carrier complete	\$2000.
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FARM STOCK—for the purchase and importation of a small herd of Hereford and one of Holsteins and current expenses attending same	\$1800.
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FARM CURRENT IMPROVEMENTS—for general repairing, such as fences, tanks, ditches, tools, &c. &c	\$ 400.
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FARM EXPERIMENTS—for experimental work, printing Bulletins, paying labor, &c. &c. collecting cabinet, &c.	\$ 300.
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FARM, GARDEN, ORCHARD, & ORNAMENTAL GROUNDS.	\$ 500.
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CREAMERY—for building a small creamery or Dairy house for experimental purposes and for using or working up milk when not needed by boarding department.	\$1500.
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Making a total of	<hr style="width: 100px; margin-left: auto; margin-right: 0;"/> \$6,500.
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I have asked for no separate amount to be set aside for labor as I deem it advisable to divide up the pay roll at the end of month charging each account and cost of work done for its benefit.

For statement of expenditures of appropriation of the last general assembly of the State of Texas, I must respectfully refer you to the report of the Business manager, as the disbursements have been made by him under his direction. Before closing I would respectfully call the attention of Hon. Board of Directors to the present needless expense of inclosing more of the unclosed land belonging to the college. We do not need it nor shall we need it for the space of three or four years to



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come. We do need money which is left of the state appropriation for other purposes, we need it urgently, and I would respectfully ask the consideration warranted by the condition of the case.

Respectfully submitted,

GEO. W. CURTIS,

Prof. Agr. & Hort.

## DEPARTMENT OF MECHANICS.

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A. & M. COLLEGE OF TEXAS,  
College Station, Texas, June 15th, 1884. }

Maj. H. H. Dinwiddie, Chairman of the Faculty.

SIR:— The following is the report of the Mechanical Department for the session of 1883--4.

The Students in the Mechanical Course have had the following time allotted them for the several classes of work :

1st. Shop practice, 4 hours per week.

2nd. Mechanical drawing, on an average of 3 hours per week.

3rd. Daily recitation, by the First Class in Civil and Mechanical Engineering, and two recitations per week on the elements of Mechanism by the Second Class.

In addition to this the regular course of Free Hand Drawing for the Third Class has been carried on from the beginning of the session until January 1st., including both the Agricultural and Mechanical students.

### SHOP WORK.

The practice in the shops has been carried on in the same manner as before, little change being made in the methods of instruction.

As a natural consequence the largest proportion of products has been turned out by the second class as in the preceding years. The beginner having mastered the use and care of a tool takes up the regular work in exercises and applies his knowledge of the tool in a practical manner and in such a way as to derive the most beneficial results from the work. Mingled with the regular exercises the student takes up many little pieces of useful work, such as ornamental and useful pieces for the decoration of his own room, of original design. This with work of a practi-

cal nature instils a love for the tools as well as for the work, increases the interest taken in the work of the Department.

The time of the graduating class has been spent principally in working iron and running the boiler and engine. While in charge of the engine problems have been assigned involving the design and construction of the steam engine, the aim being to give each one as practical a knowledge of the parts and uses of engines and boilers as possible. In these, as in all other similar problems, reference is made to the best standard Engineering works in use.

This in connection with the actual practice of running and caring for an engine gives a much better knowledge of the subject than a much longer time spent in reading alone. As before mentioned, the second class has made many useful articles in the shop. These include:—

Tables for drawing room, leveling rods for surveying, table for mounting skeleton of horse, besides many useful articles of less note, such as hat racks book shelves, picture frames &c.

The third class has been busy on the regular exercises except in the case of a few who were farther advanced, who have been occupied with outside work of a useful nature.

Owing to the efficient and constant work of the foreman of this Department, Mr. Arnold Harbers, the work has been running smoothly and much has been accomplished which would otherwise have been left undone.

The second class has worked under a slight disadvantage caused by the absence of many tools from the sets in the carpenter shop. These tools were removed from the shop during the summer vacation by different persons and never returned, the doors being opened in the absence of the head of the department.

With the new shop and its increased facilities there will be more iron work thrown into the course and a more systematic matter of working introduced throughout. The new machine tools purchased up to date are a planer and drill, both for the iron working branch of the department. These tools will necessitate a regular consumption of both cast and wrought iron, and

in order to feel an independence and freedom of action in working them a regular fund should be set aside for furnishing these supplies. In this manner a thorough and systematic course could be laid out which would enable each student to thoroughly master the principles of each machine, and in no other way can the department feel free and independent in its action.

Owing to the fact that the old engine was not powerful enough to run any additional machinery it became necessary to purchase a new boiler and engine. This made such a drain on the Appropriation for Tools that it was impossible to equip the shop in a manner even approaching what is desired. Owing to delays in finishing the new shop building it has been impossible to have it equipped for service before the end of the session as was hoped and expected. Consequently only the engine and boiler are in position while all the millwrights are left incomplete. This at first was unfortunate, but for the present second class it will be rather a fortunate occurrence as it will enable them to obtain a practical knowledge of one of the most important branches of engineering, i. e.:— setting machinery and “lining up” shafting. This millwright work is a very important feature of mechanical work and is too often neglected, but in this instance it will be utilized to a fund of useful information to the coming first class. The department still feels the need of several lathes for wood working and at least one more screw cutting lathe in addition to a milling and shaping machine, and a board surfer. These tools are indispensable to a well equipped shop and with the additional cost of filling out the broken sets with new tools and other small expenses would require an appropriation of \$2000. In conclusion it may be well to state every thing purchased for the new shops is of the best quality and represents the best practice of our times, thus enabling the students to keep up with the most advanced works of the age.

#### MECHANICAL DRAWING.

The regular course of instruction has been carried on, the work consisting principally of construction of machinery and mechanical curves. The third class, or beginners, first taking

up the freehand drawing and then starting on such problems as contain the first principles of Mechanical Drawing. The second class moving along in regular progress, has consumed the allotted time in the construction of the different curves used in mechanical works, and in the original construction of toothed wheels, square and V threaded screws and other elementary forms of mechanism.

The drawings of the first class have all been original work made from sketches of actual machines, none of them being copies of other drawings. Some of these made are:—

Fly Wheel.

Shaft Pulleys.

Eccentric of Upright Engine.

Pipe Cutter.

Saw Clamp.

Finished drawings of Pattern Maker's Lathe.

The quantity of work turned out in this Department has but little consideration, the quality alone determining the value of the work.

One drawing well executed and carefully finished is of more practical value as far as instruction is concerned than any number which are hurried over and left in an illegible condition. Especial attention has been paid to the correct manner of showing the dimensions of all parts of drawings, thus enabling the student to make a working drawing from which the machine in question could be constructed in any machine shop.

This work cannot be carried on in a satisfactory manner without having the students under the personal supervision of the instructor while the work is in progress. With this end in view two rooms on the fourth floor of the Main Building have been set aside and these with the small room now occupied by the first class as a drawing room will give ample accommodation for the first and second classes. The removal of the machinery from the lower floor of the old shop will be suitable for a drawing room for the third class. With this arrangement of rooms



each class will have a section room and the former objectionable, but under the circumstances necessary, practice of sending a student to his room to draw will be avoided. It will take some time but very little actual expense to fit up these rooms, as the students will do most of the work. The classes are all doing well, and some of the third class promise from their work to become more than average workmen. In the coming year a slight change will be made by dropping the freehand drawing in the first term, thus gaining time for the more important instrumental work. With this slight but important change the Department will open the coming year with the promise of better work from the coming classes.

#### RECITATIONS.

The members of the first class have had daily recitations during the year, and have taken up such subjects as the following:—

Strength of Material,  
Masonry,  
Foundations,  
Roadways,  
Railroads,  
Bridges.

The steam engine has been taken up in detail and its parts and proportions discussed.

The second class have had two recitations each week on "Mechanism and Machinery of Transmission," each point being treated in as practical a manner as possible, examples being taken from our own shops whenever practicable. This method has the advantage of fixing the principles in the mind by showing their application to actual work. It also tends to quicken the perceptions of the student and enables him to find his own practical examples for the application of principles which would otherwise be obtruse in their nature and almost impossible to remember.

Respectfully submitted,

R. H. WHITLOCK,  
Prof. Mechanics. Engineering and Mechanical Drawing.

## DEPARTMENT OF MILITARY SCIENCE.

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A. & M. COLLEGE OF TEXAS. }  
College Station, Texas, June, 1884. }

Maj. H. H. Dinwiddie, Chairman of Faculty.

SIR :—I have the honor to submit the following annual report of the Department of Military Science and Tactics :

Pursuant to assignment by the President of the United States I formally entered upon the discharge of my duties at this institution November 28, 1883, relieving Lieut. Crane, U. S. A., the former incumbent. The Corps of Cadets I found already organized into a Battalion of two companies and this organization has not been changed. During the past seven months all the Cadets have been thoroughly instructed in Infantry Tactics, including the schools of the soldiers of the company, parades and other ceremonies. The instruction in Battalion drill has included such manoeuvres as could be practiced with a Battalion of three companies, and to that extent has been instructed in the duties of sentinel when performing Barrack Guard duty, and graduating class in Target practice with ranges of 100 and 200 yards, and in the Artillery drill including the "Manual of the piece dismounted" and "Manoeuvres of two gun detachments." The interest manifested by all the cadets, with a very few exceptions, in their various military exercises has been very commendable and the progress made highly satisfactory. The proficiency of the graduating class, who have received thorough theoretical as well as practical instruction in the duties of company officers, is such as to eminently qualify them for positions in the volunteer and militia forces and should their services be needed they will prove invaluable to the state.

I respectfully renew the recommendation of my predecessor that a suitable flag be purchased for the use of the corps, the one

## A. & M. COLLEGE OF TEXAS.

won by the cadets several years ago being entirely worn out I also recommend the purchase of twelve copies of infantry tactics and two of artillery tactics, and also the purchase of twelve swords and belts for the use of cadet officers. The college would be soon reimbursed for the books and swords by taxing each cadet officer a nominal sum for the use of the same. I also urgently recommend that a suitable dress uniform, to be worn only on occasions of ceremony, be adopted. Such a uniform need not be expensive and receiving as little use as it would, one suit, or at the most, two, would last a cadet during the entire three years. No dress trousers will be required, a light helmet which will not cost more than \$4.50, and a dress coat, which need not cost more than \$10. would be sufficient. The military department of this institution is conducted without any cost to the college either for the services of the army officer detailed here or the arms and ammunition furnished. It seems asking very little to expect that the college should supplement the generosity of the general government to youth of the state by the purchase of a flag, a few swords and copies of tactics. It is not the intention of the present head of this department to insist upon an undue prominence for his department but it is his belief that an undue subordination of it to the other features of the college would be detrimental to the best interests of the institution. The absence of flags, music, dress uniforms and other accompaniments of military organizations, necessarily casts a damper upon youthful enthusiasm and discourages a proper pride in his dress and bearing that would characterize the young soldier.

Strict military discipline has been enforced during the past year, all violations of regulation meeting with prompt and adequate punishment.

It appears that some time before the arrival of the undersigned the paulins designed as covers for the field guns were diverted from their proper use and worn out in the service of a different department. They should be at once replaced by the college.

Also it appears that the room used as an armory has been entered at various times since the arms were received and a

## A. & M. COLLEGE OF TEXAS.

number of rifles and equipments taken therefrom by unknown parties. The college has given bonds for three times the value of these stores to the general government.

I urgently recommended that a night watchman be employed, whose duty it shall be to guard at night all college and government property. A number of the rifles and equipments having been in constant service for a number of years are now unserviceable and I recommend that application be made to the secretary of war to have them inspected with a view to their condemnation.

Shortly after the arrival of the undersigned he established a thorough system of responsibility for the arms and equipments issued to cadets.

This ends the report of the department of military science and tactics proper.

Upon my arrival I found that officers on duty here in addition to the strictly military duties enjoined on them by the war department, was also expected to perform without compensation, certain duties not of military nature such as exercising a constant supervision over the conduct of cadets in other capacities than as members of a military organization, on occasions except during recitations ; further, that he was charged with the care of property in cadets rooms and with the care of the buildings themselves. I have performed conscientiously these additional duties and their performance has occupied more of my time than my military duties proper.

In my extra military capacity I have the honor to submit the following recommendations :

1st. That adequate bathing facilities be provided for cadets. At present cadets can bathe only once a week and this is manifestly insufficient for purposes of cleanliness and comfort in so warm a climate.

2nd. That plank walks be built for winter use between the Mess Hall and the College and between these and the sinks. The paths between these points become almost impassable in rainy weather, and as a consequence, cadets get their feet wet several times a day.



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This I believe to be one of the causes of sickness here.

3rd. That some arrangement be made for sawing the wood used by cadets and that it be kept in suitable sheds convenient to the Barracks. At present each cadet cuts his own wood with an ax in the open air, in all kinds of weather, and afterwards carries it to his room. This is believed to be a second cause of sickness.

4th. That cadets be not allowed to receive from home or to bring into their rooms sweetmeats or food of any kind.

The Mess Hall fare is abundant and of good quality and it is believed that the eating of other things between meals is a more fruitful source of sickness than eating of those already mentioned.

5th. That the contractor for the uniforms of cadets be required to submit the clothes furnished to an inspector, who shall be a member of the Faculty or officer of the college in order to prevent the cadets being imposed upon as regards material, price and fit.

6th. That each cadet on presenting himself for admission shall be required to have with him certain specified articles of summer and winter underclothing.

7th. That a resolution be passed making the telling of a deliberate lie punishable by dismissal and by no less a punishment, and that this regulation be rigidly enforced.

In conclusion I have the honor to state that I have endeavored in every possible way to encourage a manly truthfulness on the part of the students and have exerted myself so particularly in this matter because, I regret to say that on my arrival here I found that a number of the cadets in their attempts to explain breaches of discipline did not scruple to resort to prevarication, and moreover did not appear very much abashed when taxed with it. Probably more cadets have been dismissed during the past seven months for breaches of discipline than during any previous year in the history of the college, but the salutary effect upon those who remain and marked improvement in their conduct, are very apparent.

Very respectfully,

Your obedient servant,

JOHN. S. MALLORY.

2nd, Lieut. 2nd. Infantry.



## DEPARTMENT OF LANGUAGES.

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A. & M. COLLEGE OF TEXAS. }  
College Station, Texas, June, 1884. }

Prof. H. H. Dinwiddie, Chairman of the Faculty.

I herewith submit the annual report of the department of Ancient and Modern Languages. Although this department being optional with the students, yet a large number of them have, during the present collegiate year, registered their names for the purpose of receiving instruction respectively in German, Latin and Spanish. The German classes were the largest, the Spanish the smallest. The text-books, as introduced by my predecessor, were retained; instruction was given in conformity with the spirit of modern views, not like lessons learned by rote, but in a way as scientific and far reaching as is possible in any branch of study. Owing to the peculiar character of the foreign languages, as an optional branch, less importance, of course, attributed by the students to the study of those languages than to their other studies and, consequently, no reliance can

be placed on the student's steadiness in preparing his lesson outside the section-room. Therefore, in order to counterbalance somewhat this great drawback, until this evil may be remedied by higher authority, the chief labor of instructing was transferred by me within the section room, being thereby enabled to preserve, to some degree, a desirable equalness of progress by forcing along the somewhat slow scholars, without restraining the industrious ones. The result was under the circumstances, quite satisfactory; both assiduity and conduct of the students were laudable.

At the beginning of the second term my classes, I am sorry to say, became seriously deranged by the change of the schedule usually made at this time; some disturbance from various causes continued even during the whole term. These inconveniences should also be remedied in the interest of the college and the students. As soon as the student has decided to add to his collegiate course the study of a language, his choice should be considered as final for the year, and the time required for pursuing such studies with profit should be granted. This end could, in my view, be reached either by relieving the language students of some other duty or, in a still better way, by equalizing the whole plan of instruction to a harmonious unit.

It is a fact, well understood in competent circles, that the modern languages, the German in particular, not only as a powerful means for mental discipline, but also for giving immediate practical advantage, are shortly to occupy in the course of study of the higher schools and colleges a more important position than that hitherto allotted them. A prominent American educator ("in The Critic") says on the subject that in many of our colleges instruction in the modern languages is the weak spot of the curriculum, and that its mere practical side, to say nothing of the rest, demands that it should be one of the strongest. All the living languages are instinct with life, both on the surface and under it, and historical etymology is a factor that will enter more and more into the modern methods. For purposes of mere drill there is no need to dwell upon the superior qualities of Latin and Greek. On this point the foremost

American linguist, Prof. W. D. Whitney, of Yale College, in the preface to his *Compendious German Grammar*, states his views in the following way: There is a large and increasing class of students, whose philological training has to be won chiefly or altogether in the study of modern languages, instead of the classical, and who must win it by methods somewhat akin with those so long and so successfully followed in classical study. For the class referred to, German offers peculiar advantages, quite superior to those presented by any other modern language. In the words, forms, and constructions, it is enough unlike English to call forth and exercise all the pupil's powers of discrimination, to sharpen his attention to the niceties of word and phrase, and train his philological insight; while, at the same time, the fundamental relation of German to the most central and intimate part of English makes the study instinct with practical bearings on his own tongue, and equivalent to a historical and comparative study of English itself: and both on the esthetic and the practical side, there is no other modern literature so rich in attraction and so liberal of reward to us as the German.

Views, similar to these just mentioned, could, in great numbers, be adduced from scientific works and periodicals for the purposes of substantiating the assertion that the study of modern languages in a College as ours is of vital importance; yet, of the passages within reach, only one more may be quoted.

Prof. W. H. Woodburry, in the preface to his "New Method of learning the German Language" expresses himself as follows: The German Language is now deservedly ranked among the leading studies in many of our high Schools and Academies. Its treasures in every department of knowledge, in every variety of composition, are certainly among the wonders of literary achievement. Among European tongues it holds a decided superiority of rank; surpassing them all in the abundance of words, in the richness of its internal resources, and in its wonderful flexibility. Hence the propriety of its place among liberal studies. But the motives of the study of this language reach far beyond the circles of literary life. Celerity and cheapness

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of travel, growing out of recent improvements in navigation, have united in producing an easy intercourse between Germany and America. Besides, we have already in our midst an immense and daily augmenting German population. The language of this people is spoken extensively among us, and has hence come to a high practical value. It is often set down as an indispensable qualification even for a common clerkship.

RUDOLPH WIPPRECHT,

Prof. of Languages.

## DEPARTMENT OF PHYSICS.

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A. & M. COLLEGE OF TEXAS, }  
College Station, Texas, June, 1884. }

Maj H. H. Dinwiddie, Chairman of the Faculty.

SIR :—I have the honor herewith to submit the following brief annual report of the department of Physics.

The second class having enjoyed the training of the preceding session, continued the study of Physics last October by taking up Gage's Physics. This work was completed in five months; and the class having devoted as much time as allowed to the study of Physics, and having finished their prescribed course, passed into the hands of the Professor of Chemistry for instruction in that department.

The third class divided into three sections, using also Gage's Physics as a text book, have had daily recitations since last October. I have also delivered to the several sections of this class a special course of lectures, covering the subjects of Heat, Electricity and Sound. They are now well prepared for the continuation of their Physical studies. The course of instruction throughout, in this department has embraced daily experiments and illustrations with the excellent apparatus at my command. The new pieces of apparatus which have been recently added to this department, viz: dynamo machine, telegraphic apparatus, radiometer, Geissler's tubes &c, will be much future service to me and my work of instruction.

I am most respectfully,

Your obedient servant,

W. L. BRINGHURST.



## REPORT OF THE LIBRARIAN.

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A. & M. COLLEGE OF TEXAS. }  
College Station, Texas, June, 1884. }

Maj. H. H. Dinwiddie, Chairman of the Faculty.

SIR : I have the honor of submitting, herewith, my report on the affairs concerning the Library, of which I took charge at the beginning of the present collegiate year.

The legislature of 1879 appropriated \$15,000 for providing the A. & M. College with the necessary apparatuses. Out of this amount \$1,500 were set aside by the Board of Directors, for establishing a Library. After paying for the shelves and other matters necessary for the purpose, the money remaining was expended in the purchase of books. In the following year \$795.87 were added by the Board of Directors, to the above sum, and that was the last money ever spent in that direction.

Besides the books acquired by purchase, the Library was increased by donations among which there are a number of reports of various kinds. Of scientific works, the Library contains books on chemistry, mathematics, agriculture, natural philosophy, metaphysics, languages, mechanics, history, geography, and literature. According to the Catalogue, the Library contains 903 separate works, amounting in all 1490 volumes.

That the Library under the given circumstances, should be pronounced as being in effective state of existenee can scarcely be expected. The wear and tear of the books most in demand renders them ragged; and as we have no money for replacing them by new ones, the library is necessarily decreasing instead of growing. Most valuable donations, such as the contributions from

## A. & M. COLLEGE OF TEXAS.

the Smithsonian Institute, in paper covers are almost useless to us as long as we are not in the circumstances of having them substantially bound. Judging from the variety of character of the works above intimated, compared with the amount of money invested in their purchase, it is readily understood that the respective departments are but very fragmentarily represented. Most keenly, however, is felt the want of books such as are practically suitable for the use of the students, not only for self instruction and references in writing their essays, but they need them also for mental refreshment and moral guide. Good books are shields to the young men. They are most faithful friends to everyone, for they instruct where there is need for instruction; they cheer the heart when sad, and entertain when time hangs heavy; they never feel offended when neglected, and ever show the same kind face when called upon. Parents and educators who succeed in impressing upon the minds of their wards the love of good books will, indeed, bestow on them one of the greatest blessings for life time. Therefore, that the college in this way may be enabled to come up to the requirements of the times, it is necessary that the Library should be endowed with a permanent fund large enough to meet the expenses coincident with such an institution.

RUDOLPH WIPPRECHT.

Librarian.

## SURGEON'S REPORT.

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A. & M. COLLEGE OF TEXAS.        }  
College Station, Texas, June, 1884.    }

Prof. H. H. Dinwidde, Chairman of the Faculty,

Sir : I beg leave to submit my annual report as Surgeon for the year ending June 24th, 1884.

Since the opening of the session, Oct. 1st, 1883, I have resided at the college and acted in the capacity of health officer, as well as physician and surgeon. I have not been absent from the college for a longer period than one day at any time during the session, and have only failed to be present at two sick calls. It has not been necessary to call in another physician at any time during the session, although students are allowed to employ any physician they please. I am glad to report that there have been no deaths in the corps this session, and but few cases of serious sickness. There have been a number of cases of sickness of a mild form, caused almost exclusively by indiscretion in diet and a disregard for the rules of hygiene. Cadets not only eat too much at meal time, but eat confections, nuts &c. in their rooms. I beg leave to suggest that students be forbidden to have anything to eat in their rooms, and that the surgeon be given authority to prevent any unwholesome food being put on the table and to have a general supervision of the mess hall department in so as far as it relates to the kind and quantity of the food furnished. The food furnished to cadets during the past session

has as a general rule been of a first class quality, and always abundant in quantity. The custom of having deserts every day for dinner is pernicious in its effects and should be discontinued not so much on account of the unwholesomeness of the desert furnished, but because cadets usually eat desert in addition to a full meal. Plain, nutritious, well cooked food is best for every one, and especially so for students. In my last report I called attention to the necessity of having suitable arrangements provided for bathing. Since then there has been fitted up a bath house with sufficient accommodations for the entire corps. With a larger class additional rooms would be required. The matter of cleanliness cannot be too strongly urged as a means of preserving health. We have been without a hospital building during the past session: but on account of the small number of cases of serious sickness, we have not suffered serious inconvenience, though it has entailed additional labor on the surgeon. I cannot, however, urge too strongly the necessity of having a suitable building separate from the barracks, for hospital. It is not only necessary to insure the proper care of the sick, but as a matter of discipline. Cadets who are allowed to remain in their room when sick, often abuse their privilege, and many who would feign sickness in order to escape unpleasant duties, if allowed to remain in their room would not be willing to remain in the hospital under the surveillance of the Surgeon and be compelled to take medicine and live on light diet. With reference to the matter of malingering, I am glad to say that the practice does not exist to so great an extent this session, as it did last. Whether this has been due to a change of sentiment in regard to this practice in response to an appeal to their sense of honor; or to a better acquaintance on the part of the Surgeon with the standing of the cadets in their classes and general deportment, I am unable to say—possibly both. It is a remarkable fact that those who receive the greatest number of demerits, are found most frequently on the sick list.

The plan of having the Surgeon to reside at the college, is certainly a great advantage over that of having him visit the college only once a day; as cases frequently occur in which a delay of a

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few hours would prove very serious in its consequences. I most respectfully insist on the importance of having a hospital Steward whose first duty shall be to attend to the wants of the sick. During the past session we have had to depend on one of the Janitors to act in that capacity; and while he performed his duties faithfully in both positions, he would have been compelled to neglect one or the other of these duties, had there been much sickness.

Respectfully submitted,

J. D. READ, M. D.,

Surgeon, A. & M. C.



## REPORT OF STEWARD.

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A. & M. COLLEGE OF TEXAS, }  
College Station, Texas, June, 1884. }

Gen. Wm. P. Hardeman, Agent Board Directors A. & M. College.

As the present college year has just ended, I beg leave to submit to your honorable board a short report in relation to my department. The motive that has prompted me, is due to the fact that the expense of the Mess Hall department has been a little larger this year than any previous year compared to the number of students in attendance upon the college. This increase is due to the causes which I shall hereafter enumerate. The Mess Hall department has been conducted during the present year in a much better manner than the previous year, and more in keeping with the style of a first class hotel.

I was informed officially at the beginning of the session that the prosperity of the college depended largely upon my efforts in the Mess Hall department; and in view of such, I devoted my entire time and gave the strictest attention to the duties of the Mess Hall, in order to avoid the least possible ground of complaint. It is generally conceded the management of the Mess Hall has given entire satisfaction to the students and all connected with the college.

The expenses of the department have been a little larger this year than for some previous years, and hence, will not net to the college the handsome profits heretofore accrued to the college from the Mess Hall. The requisitions during the present term

called for the best the market afforded, and the prices were greater than that of last year. Beef was not as costly as during the present session and mutton, which was very expensive, was not used at all; but both of the above articles have been used freely during the present term. Besides this there are several other causes which have increased the expenses of the Mess Hall department. The most apparent cause is the small attendance during the recent session. Eighty students being during the year present at the mess hall tables, where with the increase of two more waiters the same help would be amply sufficient to accomodate two hundred students instead of seventy now present, and at a material reduction in the price of board per capita.

Table linen has been introduced into the dining room adding to the neatness and comfort of the hall, but increasing the laundry bill. A more efficient cook has been employed this year. The bill of fare has been made better. Each student has received during the present session, a fresh glass of milk each morning.

This increased the milk bill to five hundred dollars over that of last year. The laundry bill foots up for the present year \$983.29 1-2

Six hundred and seventy-five gallons of lamp oil have been distributed to the college janitors for the main building, mess hall and barracks, the remainder to the college professors. This department has also disbursed no less than two thousand dollars for home produce, such as butter, Eggs, and poultry. These could be easily raised on the place by proper and judicious management, which would improve the fare with less expense and prove a benefit to the college.

I would also recommend to the honorable board, through your general manager, the necessity of an ice house or a first class refrigerator to keep the meats two days after slaughtering. It is regarded as very injurious to cook meats, and especially beef, the same day they are slaughtered with animal heat still in them. But they should remain on ice two days before cooking.

The health officers of many of our large cities have pronounc-

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ed it a criminal offence to cook meats the same day they are killed.

I also take this opportunity of expressing my thanks for the co-operation with me with the General Manager and professors during the session. None of my requisitions have been rejected but all have been filled, and the different members of the faculty have been present in the Mess Hall during meal hours according to the rules and regulations of the college.

This has assured perfect decorum and good manners among all the students.

Respectfully,

Your obedient servant,

BERNARD SBISA,

Steward.











